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The Harveian Oration
ON
THE HEART AND NERVOUS SYSTEM.[1]

Delivered before the Royal College of Physicians of London on Oct. 18th, 1902,

BY DAVID FERRIER, M.D., LL.D. EDIN., F.R.S.,

FELLOW OF THE COLLEGE; PROFESSOR OF NEURO-PATHOLOGY, KING'S COLLEGE; PHYSICIAN TO KING'S COLLEGE HOSPITAL; AND THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

MR. PRESIDENT AND GENTLEMEN,—I am certain I am but truthfully expressing the feelings of this important assemblage of the College of Physicians when I say that we one and all rejoice that our most exalted Fellow, His Gracious Majesty King Edward, has been happily restored to health and anointed King over a loyal and united nation, united as it has never been before in the history of our race. Our sovereign owes much to the medical profession, for twice at least he has been rescued from imminent peril by the skill and devotion of our brethren. His Majesty has been singularly fortunate in having had on both of these occasions as officers of his medical body-guard the greatest living experts in the class of diseases by which he was assailed; and it is to us a legitimate source of satisfaction that our art has made such progress within the memories of us all as to have rendered it possible, in circumstances formerly almost hopeless, to save a life so precious to his subjects. If the King owes much to the medical profession, we, on our part, gladly acknowledge the deep debt of gratitude which he has earned at our hands. He has at all times exhibited a sympathetic interest in our work, our needs and aspirations, and in particular by the magnificent endowment which he has secured to the metropolitan hospitals he has done much to promote the cause of medical education and the welfare of his people. The illustrious Harvey, whose name on this day of St. Luke we are met to honour, was fortunate in having in King Charles a sovereign keenly interested in scientific progress, who provided his trusted physician with many facilities for his observations and experiments and often in person attended his demonstrations. It was to the king that Harvey dedicated his immortal treatise "De Motu Cordis" in poetical terms of comparison between the heart and body and the sovereign and body politic.

> The heart of animals is the foundation of their life, the sovereign of everything within them, the sun of their microcosm, that upon which all growth depends, from which all power proceeds.

It would be as difficult to understand vital functions, the conditions of health and disease, apart from the circulation of the blood, as it would be to explain the movements of the heavenly bodies without the law of gravitation. Harvey, as has been truly said, is the Newton of physiology. His "Exercitatio" is such a complete and closely reasoned proof of the circulation that in the 274 years that have elapsed since its publication nothing of material consequence has been added to the cogency of his arguments; and his demonstration of the movement of the blood in a circle is a model of exposition which cannot be surpassed by any lecturer on physiology at the present day. Harvey's work deals essentially with the mechanics of the circulation and in this he practically reached finality. But he naturally pondered over many cognate problems which have continued to exercise physiologists and psychologists to the latest times. It was evidently his intention to deal with these in a separate treatise, for, among other things, in his second letter to Riolan he says:—

> We also observe the signal influence of the affections of the mind when a timid person is bled and happens to faint. Immediately the flow of blood is arrested, a deadly pallor overspreads the surface, the limbs stiffen, the ears sing, the eyes are dazzled or blinded. ..... And what indeed is more deserving of attention than the fact that in almost every affection, appetite, hope, or fear, our body suffers, the countenance changes, and the blood appears to course hither and thither. ..... But here I come upon a field where I might roam freely and give myself up to speculation. And indeed such a flood of light and truth breaks in upon me, occasion offers of explaining so many problems, of resolving so many doubts ..... that the subject seems almost to demand a separate treatise. And it will be my business in my "Medical Observations" to lay before my reader matter upon all these topics which shall be worthy of the gravest consideration.[2]

Harvey's speculations on these and kindred subjects, if his "Medical Observations" had come down to us, would have been of exceptional interest, though we cannot doubt that in the light of modern research they would have appeared but inchoate, as our own will doubtless so seem to those who come as many years after us as we are from Harvey. For the language of the physiologist is but a reflex of the state of knowledge of his day and his explanations do not transcend those of the sciences on which his own is based. In his exposition of vital phenomena Harvey shows himself still trammelled and unable altogether to emancipate himself from the notions of Aristotle and Galen. He speaks, like Galen, of the heart as being an "elaboratory, fountain and perennial focus of heat" (second epistle to Riolan): not, however, in virtue of its proper substance, but because of its contained blood. Though he scouts the idea of the calidum innatum as transcending the qualities inherent in the living heart and blood, or attributable to anything "of a sublime, lucid, ethereal, celestial, or divine nature," he naturally, in the then state of scientific knowledge, failed to master the problem of the source of animal heat. This was only possible more than 200 years after his time by the discoveries of Black, Priestley, Lavoisier, and others on the nature of combustion, and by the researches of modern physiologists on the metabolism of the tissues, and the foci of heat-production in the body. We now know that there is no more innate heat in the heart than is evolved by its own intrinsic muscular contractions. Neurology in Harvey's time consisted largely in speculations as to the seat of the rational soul, and the mode of generation and distribution of the animal spirits to the various organs of the body. Little or nothing was known of the relations of the heart to the nervous system. Harvey had, however, some obscure conceptions as to the difference between "natural" and animal motion. He says:—

> There are some actions and motions the government or direction of which is not dependent on the brain, and which are therefore called "natural." ..... Many animals are endowed with both sense and motion without having a common sensorium or brain, such as earth-worms, caterpillars of various kinds, chrysalides, &c. So also do certain natural actions take place in the embryo, and even in ourselves, without the agency of the brain.[3]

But he looked upon all these "natural," visceral, or reflex actions as proceeding from the power of the heart and dependent on it, while the animal motions alone necessitated the controlling influence of the brain. During Harvey's lifetime, however, Thomas Willis was laying the foundations of a more exact neuro-physiology. His work on the descriptive anatomy of the brain, the arrangements of its blood-vessels, the distribution of the cranial nerves, and the relations of the vagus and intercostal, or sympathetic, nerves to the thoracic and abdominal viscera contains much of enduring value. Amid much fanciful speculation as to the functions of the different parts of the brain and the nature of the animal spirits, he came near formulating a true conception of the nature of reflex action; and in particular he clearly differentiated between the nerve centres governing the viscera from those which regulate the functions of animal life. He regarded the cerebellum as the centre of the visceral functions, a view which he was led to adopt mainly by the anatomical connexions which he thought he could trace between this organ and the vagal and sympathetic nerves.

> When some time past I diligently and seriously meditated on the office of the Cerebel, and revolved in my mind several things concerning it, at length from Analogy and frequent Ratiocination this (as I think) true and genuine use of it occurred: to wit, that the Cerebel is a peculiar fountain of animal Spirits designed for some work and wholly distinct from the Brain. The office of the Cerebel seems to be for the animal Spirits to supply some nerves by which involuntary actions (such as the beating of the heart, easie Respiration, the Concoction of the Aliment, the protrusion of the Chyle, and many others), which are made after a constant manner unknown to us, or whether we will or no, are performed.[4]

[1] In the preparation of this address I have freely availed myself of the rich mine of material contained in the works of Tigerstedt (Die Physiologie des Kreislaufes, 1893), von Bezold (Die Innervation des Herzens, 1863), and the well-known text-books of Foster and Schäfer. In particular I gratefully acknowledge much valuable help and counsel from my colleague Dr. T. G. Brodie.

[2] Harvey's Works by Willis, p. 129—slightly transposed.

[3] On Generation—Harvey's Works by Willis, p. 432.

[4] The Anatomy of the Brain, Chapter xv.

Willis, as we know, was wrong as to his localisation, but in this and other passages he not obscurely foreshadowed the distinction between the splanchnic and somatic systems of nerves rendered more precise in recent years.

Harvey knew that the heart of a cold-blooded animal would continue to beat when removed from the body, and even when cut to pieces, each portion continuing to execute its own rhythmical contractions. Though he does not specially discuss the cause of the heart-beat, yet one may gather from many passages in his writings that he considered the heart to be endowed with an inherent activity of its own independently of the brain and nervous system. The discovery in more modern times of the ganglia in the substance of the heart by Remak, Bidder, and Ludwig naturally led to the belief that its contractions are conditioned by rhythmical stimuli proceeding from these intra-cardiac centres, just as the somatic muscles are normally excited to action by stimuli conveyed from the brain and spinal cord. Though perhaps the last word has not been said on this much-debated question the balance of evidence, largely furnished by the ingenious and skilfully devised experiments of Gaskell, is in favour of the view that the beat of the heart is due to an intrinsic rhythmical contractile power of the cardiac muscle, possessed by all parts in greater or lesser degree, but most marked in the venous sinus and auricle, whence a wave of contraction is propagated through the heart, leading the sequence and setting the pace to the other chambers. From this point of view the cardiac ganglia are merely peripheral ganglia of the efferent visceral fibres of the vagus, analogous to those of the visceral system of nerves in general. The heart, however, in its normal relations is not a mere mechanical pump automatically working so many times a minute and turning out so many gallons of blood per diem in steady and regular flow. The needs of the organism are ever changing and the heart and vascular system are ever adapting themselves in accordance therewith. There is scarcely an act, or thought, or feeling which does not reflect itself in the rate of the heart and state of the pulse. The explanation of these variations is to be sought for in the relations which subsist between the central nervous system and the heart and blood-vessels. Though to the physiologist this is a well-worn theme I trust that in my endeavour to bring into line the various conditions, physical and mental, which influence the circulation, it will not be considered unworthy of my learned audience if I sketch the principal facts and stages in the development of our knowledge of this subject.

The heart and blood-vessels, together with the walls of the hollow viscera, glands, and non-striated muscles of the hair bulbs, as well as certain striated muscles derived from the lateral plates of the mesoblast, are innervated by the great system of visceral or splanchnic nerves, the differentiation of which from the somatic, or those which supply the organs and muscles of animal life, is the distinguished merit of Gaskell. And it is gratifying to think that also to other countrymen of Harvey, notably Langley, we owe in large measure what is known respecting the distribution o the ultimate ramifications of this great system of nerves. The visceral nerves consist of two sets, possessed of opposite functions—viz., motor and inhibitory—terms which are applicable to their action on the heart, blood-vessels, and hollow viscera.

The most epoch-making discovery in reference to the innervation of the heart was the observation of the brothers Ernst and Edward Weber in 1845 that electrical irritation of the vagus caused the heart to beat more slowly or to stop altogether for a time in the state of diastole. This fact was an altogether new one in neurology and has been far-reaching in its consequences and applications. Through the vagi the cardiac centres exercise a more or less constant restraining influence so that when they are cut the heart beats more quickly. This effect was observed both by Willis and Richard Lower, but both regarded it as essentially of a paretic nature due to cutting off the main stream of animal spirits. Willis says:—

> And here it may be rightly inquired into whether the pulse of the heart so necessarily depends on the influence of the animal spirits through the nerves, that, it being hindered, the action of the heart should wholly cease? For the decision of this we once made a trial of the following experiment on a living dog. The skin about the throat being cut longways and the trunk of both the wandering pair being separated apart we made a very strict ligature, which being done the dog was presently silent and seemed stunned, with a great trembling of the heart.[5]

[5] Anatomy of the Brain, Chapter xxiv.

Willis imagined that the sympathetic fibres of the cardiac plexus were able by a kind of anastomosis to supply the animal spirits after the vagi were divided. The totally different function of the sympathetic was first demonstrated in 1866 by von Bezold, who found that stimulation of the filaments proceeding from the ganglion stellatum—derived, as has been proved by subsequent researches, from the upper thoracic anterior roots—caused effects entirely antagonistic to those of the vagus—viz., acceleration of the rhythm and increased force of the cardiac contractions. The visceral system also contains sensory or afferent fibres, which are the medium of communication between the viscera and the sensorium, but the mode of origin, course, and termination of these nerves are less accurately known than those of the efferent class. The heart, like the viscera, is in normal conditions but poorly endowed with sensibility and is barely, if at all, sensitive to tactile stimuli. This fact was first demonstrated by Harvey in the case of the son of Viscount Montgomery, whose heart had been exposed by destructive ulceration of the chest wall in the præcordial region. This interesting patient was brought under Harvey's notice by King Charles himself. Harvey relates:—

> I carried the young man himself to the king that His Majesty might with his own eyes behold this wonderful case: that in a man alive and well he might, without detriment to the individual, observe the movement of the heart, and with his proper hand even touch the ventricles as they contracted; and his Most Excellent Majesty, as well as myself, acknowledged that the heart was without the sense of touch, for the youth never knew when we touched his heart except by the sight or the sensation he had through the external integument.[6]

The heart, however, is sensitive to severer forms of stimuli, and more particularly to states of abnormal tension. It is as Budge found[7] more sensitive towards the base and less so towards the apex. It is generally stated in text-books of physiology that the vagus is the sensory nerve of the heart. This, however, though apparently the case in frogs,[8] in which the vagus and sympathetic nerves run throughout in the same sheath, is not the whole truth as regards man or even animals in general. For after section of both vagi in a cat, Goltz found that pinching or otherwise irritating the heart caused reflex movements of the whole body. Though, as has been already remarked, the afferent fibres of the visceral system have not been experimentally determined with the same precision as the efferent, there are many reasons for believing that they are connected with the same spinal segments. This is borne out by Head's brilliant work on the relations between visceral disease and cutaneous pain.[9] Pursuing Ross's hypothesis that the viscera receive their sensory fibres from the same segments of the spinal cord as those from which the somatic sensory roots arise along which the pain is referred, he has succeeded in mapping out with marvellous definition the segmental relations of the sensory nerves of the various viscera. From these it appears that painful conditions of the heart refer not only into the regions connected with the vagi, but also into those of the upper dorsal segments whence the heart also receives its chief motor supply. The sensory nerves of the heart, therefore, lie not only in the vagus, but also in the rami communicantes of the upper dorsal nerves. What is the respective origin of these nerves in the heart is not as yet certain, but the recent investigations of Köster[10] indicate that the depressor nerve, the afferent nerve of the heart *par excellence*, is in reality the sensory nerve of the aorta and not of the heart itself. The centres both of the cardiac inhibitors and accelerators and augmentors are situated in the medulla oblongata—not in the cerebellum as Willis supposed—the former in the vagal nucleus where a pin-prick will arrest the heart, the latter in a point not yet accurately determined. These cardiac centres are in a more or less continuous state of so-called automatic activity, which is capable of being exalted, depressed, or otherwise modified by impulses proceeding from the heart itself and blood-vessels, from the somatic and splanchnic periphery as well as from the higher regions of thought and feeling.

We have, as a rule, no direct voluntary control over the heart's action—perhaps a wise provision of nature against the temptation to try foolish and dangerous experiments. Cases, however, are on record in which, apparently by voluntary effort, the action of the heart has been inhibited

[6] On Generation, Willis's translation, p. 384.
[7] Wagner's Handwörterbuch, Band III., p. 485.
[8] Goltz: Virchow's Archiv, vol. xxviii., 1863.
[9] On Disturbances of Sensation with special Reference to the Pain of Visceral Disease. Brain, vol. xvi., 1893.
[10] Ueber die Ursprung des N. Depressor, Neurologisches Centralblatt, 1901, p. 1032.

or rendered almost imperceptible. The best authenticated instance of this kind is that of Colonel Townsend (related by Cheyne in his English Malady, 1733), who was able at will to throw himself into such a state of suspended animation that his heart and breathing ceased to be appreciable by ordinary tests. More wonderful things have been related of the Indian fakirs. We do not as yet know the real mechanism of this voluntary hybernation, but Ed. Weber proved on himself that the action of the heart can be reduced *ad deliquium animi* by voluntary compression of the chest and forcible expiration with the glottis closed. This exerts such pressure on the great veins as completely to obstruct the flow of blood through the heart and to cause it to stop for several beats. Some of the cases of apparently direct voluntary control over the heart's action may be therefore accounted for through the medium of the respiratory mechanism; but there are others[11] in which the rate of the heart has been capable of acceleration at will independently of the respiration and without calling up special ideas. In all such instances there has been also unusual power over the voluntary muscles.

Like the heart the calibre of the blood-vessels is regulated by mutually antagonistic sets of nerves—the vaso-constrictors (vaso-motor) and the vaso-dilators (vaso-inhibitory). That the lumen of the blood-vessels was subject to variation under the influence of the nervous system was postulated long before it was actually demonstrated. The credit of this prevision has been assigned to various writers. Harvey, as we have seen, intended to discuss the subject in his "Medical Observations." The philosopher Malebranche[12] is said to have propounded a vaso-motor theory of emotional expression according to which the flow of vital spirits to the brain and the organs was regulated by a special system of nerves. But Willis appears to have first actually demonstrated the nerves of the blood-vessels and to have indicated their true function, for he describes nerves from the cardiac and abdominal plexuses as accompanying the blood-vessels which he graphically likens to twigs of ivy embracing and surrounding their trunks and branches. Of their function, in speaking of the solar plexus, he says:—

> That from this plexus many fibres and shoots going forth are inserted into the Trunk of the Aorta nigh its descending, and that these reaching towards the intestines accompany the Blood-carrying vessels, and in several places climb over them; from hence it may be inferred that nerves also in the Abdomen are like Bridles and Reins cast on the sanguiferous Vessels, which either by straining or pulling them together may sometimes retard, sometimes incite the course of the blood according to the needs of the lower Viscera.[13]

The tightening or relaxation of the grip of the vaso-motor nerves on the blood-vessels imagined by Willis was shown by the discovery of Henle in 1840 of the muscular nature of the middle coat of the arteries to be a contraction or relaxation of the walls of the blood-vessels themselves. But the actual proof of the action of the vaso-motor nerves was first given in 1851 by Claude Bernard in the well-known dilatation of the vessels of the rabbit's ear on section of the cervical sympathetic, followed almost immediately by the demonstration of the converse results on electrical stimulation of the distal end of the cut nerve by Bernard himself, Brown-Séquard, and Waller. Similar phenomena were speedily proved to obtain in reference to the vessels of the abdomen, the limbs, and most of the organs of the body. The blood-vessels are normally in a state of tone or semi-contraction, which is kept up mainly by the nervous system. The centre which governs the calibre of the blood-vessels is situated in the pons-medulla, probably in the group of cells known as the antero-lateral nucleus—the homologue of the cells of the intermedio-lateral tract of the spinal cord (Gaskell). Hence on section of the cord below this point there are extensive vaso-dilatation and an enormous fall in the blood pressure. But though this is the chief centre of vaso-motor regulation there is evidence that there are also subsidiary centres in the cord itself. For after section below the medulla oblongata the vessels after a time regain a considerable amount of tone, and reflex alterations in their calibre can be elicited by appropriate stimuli. The blood-vessels also possess an intrinsic activity similar to that of the heart itself and exhibit slow rhythmical variations in calibre; and the recent experiments of Bayliss[14] prove that they respond to mechanical variations in internal pressure—constricting or relaxing, with a rise or fall respectively. The antagonistic nerves, the vaso-dilators, the homologues of the cardiac inhibitors, indicated by Schiff, were first clearly demonstrated by Bernard in 1858 in the chorda tympani. (Electrical irritation of the branch of this nerve distributed to the submaxillary gland was found to cause such a degree of vascular dilatation that the blood flowed from the veins in jets and arterial in hue—a condition entirely independent of the function of the gland as such, inasmuch as it occurs with the same distinctness when the function of the salivary gland has been paralysed by atropine. The phenomenon is a pure instance of vaso-dilatation.)

Bernard's discovery of the vaso-dilators of the chorda tympani was followed in 1863 by that of Eckhard of the vaso-dilator action of the nervi erigentes, and the existence of a special set of vaso-dilators running in separate channels from the constrictors was thus conclusively established. Subsequent researches have shown that vaso-dilators exist also in other nerves which at first sight appear to contain only vaso-constrictors. Their presence, however, is only masked by the greater number and greater excitability of the constrictors, but when special methods of stimulation are employed the action of the vaso-dilators is made clearly manifest. All the organs supplied with vaso-constrictors are furnished also with vaso-dilators, but the proportion differs, and in some organs, such as the brain and lungs, it is still a question whether there are any vaso-motor nerves at all. In reference to the lungs, in which Bradford and Dean[15] as well as François Franck[16] claim to have demonstrated the existence of vaso-motor nerves, the recent experiments of Brodie and Dixon[17] are of special importance and significance. They found that no change in the calibre of the pulmonary arterioles could be produced by direct stimulation of any of the fibres proceeding to, or emanating from, the stellate ganglion. Further, when the lungs were perfused with blood containing suprarenal extract which, as has been shown by Schäfer and Oliver,[18] usually causes constriction of the blood-vessels, no such results occurred in the pulmonary blood-vessels but rather the reverse. This led to the discovery that when the arterioles of organs otherwise occluded by suprarenal extract have had their vaso-motor nerves previously paralysed by apocodeine or cocaine perfusion with suprarenal extract causes dilatation instead of constriction. That this result is not due to paralysis of the muscles of the arterioles is proved by perfusion with chloride of barium which causes intense constriction and complete stoppage of the outflow. These experiments show, therefore, that suprarenal extract acts by stimulating the nerve-endings of vaso-constrictor nerves and that there is no evidence of such in the pulmonary blood-vessels.

Generally, it may be said that those organs in which it is necessary for occasional purposes to have an active flow of blood, such as the salivary glands, kidney, and generative organs, are specially provided with vaso-dilators which sometimes run in separate channels. The centres of the vaso-dilator nerves have not been determined with the same precision as those of the constrictors. It is probable that they are related to the segments of the cord from which they respectively arise. This at least is true of the nervi erigentes, for when the cord is divided above their origin their function can be excited or inhibited reflexly just as in normal conditions (Goltz). Vaso-dilatation is not, however, always an active effect but sometimes only a cessation of normal tone; and there is one afferent nerve the action of which is always vaso-dilatation. This—the depressor, discovered by Ludwig and Cyon in 1866—plays a very important rôle in the regulation of the circulation. It is one of the afferent or sensory nerves of the heart, arising either in the heart itself or, according to the researches of Köster mentioned above, at the base of the aorta. Stimulation of this nerve, arising normally from states of tension, inhibits the action of the vaso-motor centre and causes intense dilatation more particularly of the abdominal system of blood-vessels. It is by the interdependence of the cardiac and vaso-motor nerve mechanisms and the manifold ento- and epiperipherical stimuli by which they are influenced that the heart is protected from undue strain, that great and prolonged variation in the differential pressure between the arteries and veins are obviated or compensated, and that each organ obtains its due measure of

[11] Tarchanoff: Pease; quoted by Tigerstedt, Die Physiologie des Kreislaufes, p. 291.
[12] Quoted by Lange, Ueber Gemüthsbewegungen, 1887.
[13] Chapter xxvii., p. 138.
[14] Journal of Physiology, 1902.
[15] Journal of Physiology, 1894, vol. xvi.
[16] Archives de Physiologie, 1896.
[17] Brodie: Arris and Gale Lectures on the Pulmonary Circulation, THE LANCET, March 22nd, 1902, p. 803.
[18] Journal of Physiology, 1895, vol. xviii.

blood in accordance with the calls made upon it. We cannot doubt that the cardiac and vascular reflexes are essentially of a protective nature, like reflex actions in general. But though the teleological significance of many of these is obvious the usefulness of others is still involved in obscurity. We can readily understand why, as Marey has beautifully demonstrated, the heart should be inhibited when the resistance in front is too great for it to contend with safely; and why under similar conditions impulses should be conveyed by the depressor nerve, which diminish the resistance by dilating the great vascular area of the abdomen. In this we have an instance of the protective action of the vascular and cardiac reflexes on the heart itself. On the other hand, the vagus may be called into play with the view of protecting other organs, especially the brain, from undue pressure and congestion. Great rise of intracranial pressure causes slowing of the heart. This is brought about by direct action on the medulla itself. For, as Franck has shown, when the brain is isolated from the rest of the body with the exception of one vagus, injection of blood into the carotid causes the heart to beat faster or slower according to the degree of pressure exerted. And it has been argued by Roy and Adami[19] that in this we have a protective against cerebral congestion, inasmuch as the slowing of the heart from increased intracranial tension is brought about by action on the medullary centres and not from within the heart itself. The protective mechanism of cardiac acceleration is exemplified in the increased rapidity of the heart which is excited by conditions which tend to lower the pressure in the bulbar centres—such as change from the horizontal to the vertical posture and under all conditions which lead to dilatation of any large vascular area.

All organs in a state of activity are able either by local action on the blood-vessels or by reflex vaso-dilatation to secure an increased flow of blood. If the vascular area thus dilated is at all extensive the lowering of blood pressure which would be thus induced is counteracted by greater rapidity of the heart and constriction of the vessels in other regions. Thus dilatation of the abdominal vessels during the act of digestion is accompanied by the proverbial coldness of the skin and the constricted vessels and cold feet of active brain work are familiar to us all. These instances of the obviously protective action of the cardiac and vascular reflexes might be multiplied indefinitely, but there are many others the significance of which is not so apparent. Among these may be mentioned the reflex inhibition of the heart which is so easily excited by irritation of the air passages[20] and lungs.[21] There is little reason to doubt, however, that like the similar inhibition of the respiration from irritation of the interior of the heart[22] they play an important part in the mutual regulation of the intimately interdependent functions of the circulation and respiration. The cardiac, vaso-motor, and respiratory centres are all closely inter-related to each other. Of these the respiratory is most readily influenced both from the periphery and the higher centres, and it is not improbable that many of the variations in cardiac rhythm and vascular tone so induced are in reality conditioned only mediately through the respiration. With the exception of the depressor and the nerves of the air passages and lungs, moderate stimulation of perhaps all other sensory nerves, general and special, causes constriction of the blood-vessels, with a rise of blood pressure and acceleration of the heart. This, however, is a rule liable to many exceptions, the conditions of which are not as yet in all respects satisfactorily determined.

In states of exhaustion and when the stimulation is of a sudden or intense character, more particularly when of visceral origin, there is a fall in blood pressure and reflex inhibition of the heart which in certain conditions may be fatal. As an instance of this kind one may quote Goltz's famous "Klopfversuch," by which it is shown that a smart tap on the abdomen of a frog causes stoppage of the heart and dilatation of the splanchnic blood-vessels. The vascular dilatation so induced is so enormous that practically the whole of the blood in the body is accumulated in the abdomen and the animal dies by hæmorrhage into its own veins. The heart may continue to beat but to no purpose; its cavities are empty and no blood passes through it. It is, in all probability, to vaso-motor paralysis of this nature that the symptoms of surgical shock are due, as has been maintained by Lauder Brunton,[23] Crile,[24] and others. In this relation also the recent researches of Embley[25] on the cause of death from chloroform are deserving of the most attentive consideration. In the early stages of chloroform inhalation the heart is weakened and more susceptible to the influence of the vagus. The inhibitory mechanism is also more excitable, so that there is thus a twofold risk of permanent inhibition of the heart, especially when the blood-pressure is greatly reduced. Fortunately, in profounder anæsthesia the cardiac reflexes are almost abolished, so that in addition to its beneficent action in annulling pain chloroform minimises the otherwise dangerous, or even fatal, depression that might result from severe surgical procedure.

Most, if not all, of the cardiac and vascular reflexes are capable of being elicited through the medullary centres alone and they can be obtained with great facility, as Brodie and I have found, in decerebrate animals. The cardiac and vascular reflexes have an especial bearing on the circulation in the brain. The cerebral circulation has many features of an exceptional character. The doctrine propounded by Monro Secundus, supported by Kellie and Abercrombie, and most ably advocated at the present day by Leonard Hill,[26] is that as the cranium is a closed cavity and the brain substance incompressible the quantity of blood within the skull must practically be at all times the same—the blood flowing out of the veins to make room for that flowing in by the arteries,—these conditions only being excepted in which fluid or other matter is effused or secreted by the blood-vessels, for in such circumstances a quantity of blood equal in bulk to the effused matter will be pressed out of the cranial cavity. It has been argued in opposition to this doctrine that the free ebb and flow of the cerebro-spinal fluid between the cerebral and spinal cavities must allow of considerable variation in the volume of blood in the cranium, but under normal conditions the amount of this fluid is so small as to be practically a negligible quantity. The variations in blood-supply extend for the most part only to the relative proportion between the arterial and venous. The brain fills the cranial cavity as a hand a glove, and is closely appressed to the interior of the skull-cap. The pressure exerted from within outwards varies greatly; directly with the venous and only proportionately with the arterial pressure. It is increased with each pulsation of the heart and with each expiration if at all forcible. The average is about 100 millimetres H_2O, but the pressure is of importance purely in its bearing on the circulation. The functions of the brain cease if the arterial pressure is too low to cause an effective flow throughout the capillaries or if the venous pressure is too high to permit of the arteries emptying themselves. In either case the circulation in the brain fails and loss of consciousness ensues. The brain tissue, however, as such can carry on its functions at any pressure from zero up to 50 millimetres of Hg or more. Thus in a patient who had been trephined, and the brain therefore exposed to atmospheric pressure, Hill found that the intracranial pressure fell slightly below zero when he stood upright; and in a case of strychnine convulsions the pressure was estimated at 50 millimetres Hg, and yet both patients retained their mental faculties unimpaired. Up to the present no satisfactory experimental evidence has been furnished as to the existence of vaso-constrictors or vaso-dilators of the cerebral blood-vessels. Gulland,[27] however, and Morison[28] have both within the last few years demonstrated the presence of nerve plexuses on the vessels of the pia mater in all respects like those of vaso-motor nerves elsewhere. Yet no active change in the calibre of the cerebral blood-vessels can be produced by stimulation of the cervical sympathetic or stellate ganglion—practically the whole of the sympathetic supply to the carotid and vertebral arteries—or even, according to Hill, of the central end of the cut spinal cord or the vaso-motor centre itself. The opposite results obtained by Nothnagel, Cavazzani, and others are attributable to defective methods of experiment which do not differentiate between active and passive variations in the calibre of

[19] Philosophical Transactions, B. 183, 1893.
[20] Dogiel, Holmgren.
[21] Brodie and Russell: Journal of Physiology, vol. xxvi., 1900.
[22] Franck: Travaux du Laboratoire de Marey, 1880.
[23] Syncope and Shock, 1873.
[24] Surgical Shock, 1899.
[25] Brit. Med. Jour., April, 1902.
[26] The Physiology of the Cerebral Circulation, 1896.
[27] Brit. Med. Jour., vol. ii., 1896, p. 78.
[28] Edinburgh Medical Journal, 1896.

the vessels, or exclude changes due to mere atmospheric exposure. This negation of vaso-motor regulation of the cerebral blood-vessels seems to be in flagrant contradiction with the positive demonstration of nerves accompanying the vessels of the pia mater as well as with other facts, such as the apparently independent variations of the plethysmographic volume records described by Mosso, and we can scarcely doubt that there must be some intrinsic mechanism which can secure a greater flush of blood in one part as compared with another in an organ in which there is proved localisation of function. Roy and Sherrington[29] believed that they had discovered such a mechanism in the products of cerebral metabolism dissolved in the lymph which bathes the cerebral arterioles—products capable of inducing variation in the calibre of the blood-vessels in correspondence with local variations in functional activity. This, however, has been contested by Hill. Brodie and I have, however, succeeded in rendering it more than probable that the cerebral blood-vessels are under the influence of vaso-motor nerves, though so far we have not been able to determine their origin and course.

As already mentioned, perfusion with suprarenal extract of an organ supplied with vaso-motor nerves causes constriction of the arterioles so that the flow through the capillaries is diminished or altogether stopped. It was found by Biedl and Reiner[30] that injection of suprarenal extract into the carotid of living dogs caused a rise of blood-pressure in the circle of Willis and diminution of the outflow from one of the lateral sinuses—a result which might be attributed to the action of adrenalin on the terminals of cerebral vaso-motor nerves. But the conclusion is not free from fallacy owing to the non-determination of the conditions affecting the outflow from the other sinus. This fallacy, however, is eliminated by Brodie's method. By the injection of adrenalin into the basilar artery of the carefully removed brain and measurement of the outflow from the torn sinuses, he found that with moderate amount there was distinct diminution of the outflow, and complete stoppage when the dose of the extract was increased. This appears to afford satisfactory proof of the existence of cerebral vaso-constrictors, though, as compared with those of other organs, their influence is relatively slight, and there seems, therefore, no further reason for doubting the existence of some intrinsic vaso-motor regulation of the cerebral circulation. The cerebral circulation, however, varies for the most part only passively with the circulation as a whole. The blood is so disposed in the body that it may be temporarily diverted from one region in order to secure a richer supply to another which requires it. It has been calculated that when the body is at rest the thoracic and abdominal organs contain from 60 to 70 per cent. of the whole blood. In the state of activity this percentage is reversed. Thus Ranke estimates that in the state of rest the neuro-muscular apparatus contains on the average only about 36 per cent. of the blood, while in the state of activity the percentage is nearly doubled. The rapidity of the circulation in the brain in a state of activity is greater than in the state of quiescence or sleep. This is brought about by the constriction of the splanchnic and cutaneous blood-vessels through the agency of the vaso-motor centre. In illustration of this an ingenious apparatus has been devised by Mosso. When a person lies flat on a couch swinging on a horizontal axis with the head and feet accurately counterpoised, the head goes down when the brain is at work; on the other hand, the feet sink when the individual falls asleep, indicating that the blood has returned to the extremities. In tranquil sleep a sound or any kind of sensory stimulus suffices to reverse the position of the head and feet, and that, too, when the stimulus has not been sufficient to cause the sleeper to awake or to retain any knowledge of the event. Every sensory stimulus of moderate intensity has the effect of raising the blood pressure by constriction of the cutaneous and splanchnic areas. We may see in this a protective mechanism whereby impressions on the organs of sense not only awaken perception but provide the centres and apparatus of thought and volition with the means of energising in accordance with the needs of the occasion. The sensory nerves and vaso-motor centre therefore act, in the figurative language of Mosso, as "sentinels on the defensive, watching continuously, and sounding the alarm when danger is nigh."[31]

[29] Journal of Physiology, 1890.
[30] Pflüger's Archiv, Band lxxix., 1900.
[31] Fear, p. 123.

The circulation in the brain is largely dependent on the tone maintained by the vaso-motor centre. Conditions which materially lower the vascular tone, such as prostrating diseases, certain toxic agents, and the like, tend to induce cerebral anæmia and impairment of cerebral energy, especially in the upright posture. For though under normal conditions the influence of gravity is not appreciably felt it becomes very apparent when the vascular tone is defective. Hence in such conditions syncope readily occurs when the individual is suddenly raised from the horizontal to the vertical position, or obviated when the positions are reversed. In a less degree the failure of the cerebral circulation from defective blood pressure is seen in the heaviness and drowsiness which follow a heavy meal, with its consequent dilatation of the abdominal blood-vessels. Some individuals cannot do active brain work in the upright posture, and instinctively adopt such attitudes as favour the flow of blood to the head. The girding of the loins for active effort has its philosophy, according to Roy and Adami,[32] in the compression of the abdominal vessels, which raises the blood pressure and increases the output of the heart.

The influence of the blood pressure on the circulation of the brain naturally leads to a consideration of the influence of cerebral activity, more particularly states of feeling, on the heart and blood-vessels. This is a highly complex problem, and though it has actively engaged the attention of many eminent physiologists and psychologists the results arrived at are neither altogether definite nor harmonious. The influence of states of feeling on the circulation is, however, so patent that at all times and in all languages they have been expressed in terms of the heart. The very obvious display of emotional states in this manner has led James[33] and Lange,[34] particularly the latter, to regard the vaso-motor reactions and the conditions thus secondarily induced in the viscera as the essential basis of the vivid or so-called "courser" emotions such as joy, sorrow, fear, and anger. There is much to be said in favour of the view that the organic sensations, primary or secondary to vascular changes, constitute an important factor of emotional states, but there are serious objections to regarding them as their essence. The sensations and emotions have their affective tone as such independently of the vascular concomitants, and it has been contended that the vascular reactions occur in point of time subsequently to the actual manifestation of the feeling in consciousness. Sherrington's[35] experiments have also an important bearing in this relation. When in dogs the spinal cord had been severed headward of all the sympathetic nerves of the thoracic, abdominal, and pelvic viscera—thus separating the brain practically from all connexion with these viscera, from the skin of the trunk and limbs, and the blood-vessels from the vaso-motor centre—yet these animals under appropriate stimuli exhibited indubitable signs and gestures expressive of pleasure, anger, fear, disgust, and the like. The same phenomena were observed even when in addition the vago-sympathetic nerves were divided, thereby rendering insensitive also the stomach, lungs, and heart itself. Unless we can assume with Ribot[36] that there is a *mémoire affective* and with Dewey[37] that there is a revival in idea of the organic states that have in past experience been habitually associated with particular feelings, we must admit from these experiments that, apart from all vascular and visceral effects, emotions and passions are capable of being felt and expressed, at least in the domain of the muscles of animal life, with all their appropriate and characteristic gestures. We can scarcely doubt, however, with James that such eviscerated and disembowelled emotions can only have been a mere simulacrum of those which would otherwise have thrilled throughout the whole frame of the animal. But even if we thoroughly recognise the immense importance of the visceral factor in emotion it would be rash, if not altogether erroneous, to regard this, with Lange, as secondary only to vaso-motor changes. For there are many facts—notably the novel and luminous experiments of Pawlow[38] on secretion—which prove that psychical states influence the processes of secretion not mediately through the circulation but directly through the secretory nerves of the glands. The most manifest organic

[32] Waist Belts and Stays, National Review, November, 1888.
[33] Principles of Psychology.
[34] Ueber Gemüthsbewegungen, 1887.
[35] Proceedings of the Royal Society, May 10th, 1900.
[36] Psychologie des Sentiments, 1899.
[37] Psychological Review, 1895.
[38] Le Travail des Glandes Digestives, 1901.

expressions of emotion, however, are those in the domain of the circulation with which, for the present, we are more immediately concerned.

The observations of Binet and Courtier[39] show that every feeling, whether agreeable or painful, acts primarily as an excitant. The passage from the state of repose into the state of activity, intellectual or emotional, causes vaso-constriction. The stronger the stimulus the greater the effect, and for this reason, perhaps, the more painful feelings and emotions, which can be more readily experimentally induced, cause more marked vaso-constriction than those that are more agreeable. The heart is accelerated, the respiratory rhythm is altered, becoming more rapid and more profound, with obliteration of the respiratory pause, and at the same time there is a general rise of blood pressure.[40] If the volume of the brain is simultaneously registered by the plethysmograph, as Mosso has described and Brodie and I have verified, one observes almost constantly an increase. This seems to indicate that there is a relation of antagonism between the volume of the brain and that of the extremities. But this is not an absolute rule, for Mosso has observed that the oscillations in the brain volume do not in all respects run parallel to those of the extremities, probably owing to local variations in the cerebral blood-vessels themselves. Whether the quality of the sensation or emotion as such—i.e., whether it be agreeable or disagreeable, pleasurable or painful—is always associated with characteristic and uniform changes in the circulation is still the subject of considerable difference of opinion. It is probable that the discrepancies are largely occasioned by the fact that the characters of feelings are, as maintained by Wundt, much more complex than can be expressed in simple terms of pleasure or pain. For besides being pleasurable or the reverse (Lust, Unlust), feelings are exciting or soothing (Erregung, Beruhigung), straining or relaxing (Spannung, Lösung), and vary in intensity. And Brahm holds[41] that each of these conditions has its specific influence on the circulation, hence the results may so vary in different individuals that absolute uniformity probably does not exist. Apart from the suddenness of the change from a state of repose to a state of activity, whether this be indifferent, such as mere surprise, or of a painful or pleasurable character, the balance of evidence is in favour of the view that pleasurable sensations and emotions are accompanied by vascular dilatation and low tension, while the contrary are associated with vascular constriction and high-tension pulse. This is borne out, not only by experiments on normal individuals,[42] but by observations on the morbid states of joy and sadness in the typical forms of insanity.[43]

The vascular dilatation of pleasurable states of mind signifies also a more active circulation and exaltation of all the vital processes—dynamic and metabolic—while the opposite condition obtains in states of mental pain. Conversely, also, given the vascular and corporeal state arising spontaneously or induced artificially, usually associated with any particular mood, trains of thought and states of feeling corresponding therewith are apt to arise in consciousness. This, in all probability, as Lange indicates, is the origin of the use of stimulants and nervines of various kinds, which all nations and at all times have discovered for themselves. That "wine maketh merry the heart of man" is only a more picturesque statement of the truth I am endeavouring to convey in more didactic style. Pleasurable and painful emotions are thus not merely subjective states of consciousness but at the same time objective corporeal conditions of exalted or depressed vital energy respectively, which manifest themselves not only in outward attitude and gestures but in the relative power of the organism to withstand debilitating agencies of all kinds. To promote the one and to combat the other is therefore to the physician not less important—and perhaps more a mark of therapeutic skill—than a judicious selection from the materia medica. There is thus a similarity, if not an identity, between the effects on the circulation of painful and pleasurable sensations and painful and pleasurable emotions and at bottom they are probably based on the same physical substrata. Pain and pleasure are merely the subjective aspects of physiological conditions harmful or beneficial to the organism—a harmonious relation or the reverse between the processes of integration and disintegration.

As all the emotions, however complex, are founded ultimately on the affective tone accompanying the exercise of the organs of sensation in all their relations, visceral or somatic, the emotional and sensory substrata are one and the same. And it is not improbable that each organ has its own affective tone, its own centre, and contributes its own share to the general emotional result. Whether the feelings are conditioned from within or without, by presentation or representation, the effect on the circulation is the same. That which seems to constitute the chief difference between simple feelings and emotions is the relatively greater influence of the latter as compared with the former. Emotions are unitary composites of simple feelings and the resulting aggregate is much more powerful than any one of its individual elements. Fear, which is mental pain, causes greater acceleration of the heart, greater vascular constriction, and greater pallor than can be induced by mere physical pain. Not only is the circulation profoundly affected but there is a tendency to irradiation beyond the cardiac and vaso-motor into all the splanchnic functions, so that we observe *inter alia* profuse perspiration, horripilation, and movements of the abdominal and pelvic viscera, which can rarely, if ever, be reflexly induced by any degree of peripheral stimulation. In its more intense forms fear may for ever arrest the heart-beat or so break down all the protective mechanism of the organism that flight, defence, or other means of adaptation are rendered impossible and the animal falls an easy victim to the danger assailing it.

When we inquire by what mechanism the centres of thought and feeling influence the heart and blood-vessels—whether there are cortical cardiac and vaso-motor centres properly so-called, or whether the cerebral hemispheres act only indirectly upon the cardiac and vaso-motor centres of the medulla oblongata, we come upon a subject on which, in the present state of our knowledge, it is necessary to speak with caution, avoiding too confident or dogmatic assertion. Several observers[44] have described variations in the rate of the heart and tone of the blood-vessels as resulting from irritation of various portions of the cerebral hemisphere, particularly the motor area or adjoining region. But the careful experiments and weighty considerations advanced by François Franck[45] render it, I think, probable that all the cardiac and vascular effects that occur are merely the correlated concomitants of the functional activity of the motor centres, excited in a more or less obvious epileptic manner; or that the cerebral hemispheres are only the point of departure of stimuli which influence the cardiac and vaso-motor centres of the medulla oblongata in precisely the same way as those which originate in the periphery. The results are inconstant—sometimes acceleration, sometimes inhibition; they cannot be foretold; they do not vary with the point of stimulation; they have none of the features of the contra-lateral manifestations so characteristic of stimulation of the motor centres, and there is no good ground for assuming that there are any definite areas controlling respectively acceleration, inhibition, vaso-constriction, or vaso-dilatation. It is, indeed, probable that many of the reactions on the heart and blood-vessels which have been described as resulting from cortical excitation are only mediately produced through the respiratory centre which we know is to a considerable extent governed from the cerebrum. The cardiac and vascular centres in the proper sense of the term are in the medulla oblongata and the hemispheres are to them as much peripheral as the sensory nerves in general. The same may perhaps be affirmed of the so-called centres of the salivary and digestive glands recently described by Bechterew and his pupils.[46]

Through what centrifugal channels the cerebral hemispheres influence the cardiac and vaso-motor centres is not definitely ascertained but they probably transverse the tegmentum beneath the corpora quadrigemina. For in this region electric stimulation, as Danilewsky, Lauder Brunton, myself, and others have shown, invariably produces such

[39] La Vie Emotionelle, L'Année Psychologique, 1897.

[40] Binet and Vaschide, ibid.

[41] Experimentelle Beiträge zur Gefühlslehre, Philosophische Studien, Band xviii., Heft i., 1901.

[42] Lehmann: Die Körperlichen Äusserungen psychischer Zustände, 1899.

[43] On this I might quote the observations of Dumas: La Tristesse et la Joie, 1900; Broadbent: The Pulse, 1890; Maurice Craig: Blood Pressure in the Insane, THE LANCET, June 25th, 1898; Dawson: The Rôle of the Blood-supply in Mental Pleasure and Pain, Journal of Mental Science, February, 1900; and others.

[44] Schiff, Bechefontaine, Danilewsky, and others.

[45] Les Fonctions Motrices du Cerveau, 1887.

[46] Die Corticalen Secretorischen Centra der Verdauungsdrüsen, Archiv für Anatomie und Physiologie, Physiologische Abtheilung, Hefte iii. and iv., 1902.

alterations of cardiac and respiratory rhythm and vascular tone as might well be regarded as signs of irritation of the paths by which the cortical centres transmit their influence to those of the medulla oblongata. We can, however, scarcely expect by artificial methods to reproduce the conditions underlying any particular emotion, and no one has yet succeeded in imitating, either by reflex or central stimulation, the blush so characteristic of the emotions of modesty or shame. But further to discuss these and kindred topics would lead me far beyond the limits of an occasion such as this.

My object has been to present to you a concise sketch of some of the principal relations of the heart to the nervous system which we have learnt since the time of the immortal Harvey. I have left many problems untouched, and as to those on which I have ventured I have, I fear, succeeded only in indicating how much is still hypothetical and uncertain. Doubtless some Harveian orator of the future, if he takes up the same theme, will be able to expound it more luminously in the light of fuller and riper knowledge. This will surely come if only we follow in the footsteps of our great master, and obey his wise injunction to "search out nature by way of experiment."

ABSTRACT OF

An Address

ON

TUBERCULOSIS OF THE PERITONEUM FROM A CLINICAL POINT OF VIEW.

Delivered before the Torquay Medical Society on Oct. 10th, 1902,

BY EDMUND OWEN, F.R.C.S. ENG.,

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GENTLEMEN,—In the ordinary way of procedure, one might well begin by referring to the beauty of Torquay, to its splendid and unrivalled situation, and to its suitability as a winter residence for such patients as specially stand in need of warmth, sea air, sunshine, and quiet. But if I had been wanted to speak chiefly on that subject, you would probably have invited me down, by way of contrast, at a time when the atmosphere of London, where I live, is of the thickness and colour of a saucepan of peasoup into which the soot has fallen; when our pavements are wet and greasy, and when a sleety wind is for ever blowing westwards along Oxford-street. When, in short, though dear, dirty, healthy old London is in as miserable a state as can be imagined, I might, nevertheless, find your invalids sitting in the open air, soaking in the sun's rays, and feasting their eyes upon a sparkling sea as if they were in a Naples without noise, a Naples without dirt or extortion, and a Naples which can be quietly enjoyed without any of that feeling of expatriation which is so apt to break in upon the happiness of those who have been banished to the south of Europe in search of health.

And having fully acknowledged the great benefit which tuberculous patients in general are likely to derive from a judicious attempt to lead a quiet, healthful, out-of-door life, I may, perhaps, venture to make a few remarks upon an ill-considered and an intemperate adoption of the same. We English are too much inclined to be attracted and amazed by any new light which suddenly flashes across our path, and actually to court disaster from it—after the manner of the benighted birds which dash themselves against the lantern of the Eddystone. Even our staid profession is not proof against glitter. One has not yet forgotten the excited rush of medical men to Berlin in 1890, the hasty publication of immature experiences of the value of the Koch injection treatment of tuberculosis; the hopeful expectancy spread out before anxious patients, the bitter disappointment—and, then, the silence. And unless the adoption of the new *al fresco* treatment for tuberculous diseases (of which we are hearing so much from every side) be carried on with intelligence and discretion, it can scarcely fail to invite disappointments, if not catastrophes. By no means will every tuberculous patient be suited for treatment in the open air; many there must be for whom protection and warmth will continue to be absolutely indispensable. Why, even in Torquay the delicate odontoglossums and the cattleyas still have to regard the oleanders and the myrtles through glass, and it is out of the question that the open-air life can be made to suit all tuberculous individuals any more than it can suit all plants.

I hope you did not think just now that I was speaking too disrespectfully of Naples, but a good many people who have not been there hold very erroneous ideas as to its suitability as a winter residence for delicate persons. I have hinted at some of its disadvantages. It is the noisiest place that I have ever been in. Then, the hotels are hot and crowded; the door-ways are draughty, and the stifling atmosphere of the evening *table d'hôte* is quite unspeakable. More than this, the food of most foreign hotels, and of those English hotels which serve up a bad imitation of French cooking, is by no means suited for an invalid. The French cynic said that though the English have so many forms of religious belief they had only one sauce—a sauce, by the by, which the average English cook shares equally with the paperhanger. The reason of our being so unimaginative in the matter of sauces is, of course, that our food-stuffs are of such superlative excellence that they do not need either flavouring or disguising. So, to the delicate invalid—as distinguished from a robust and vigorous Cook's tourist—I would say, "Take sunny lodgings at a sheltered southern seaside place in England, where you can enjoy in undisturbed peacefulness a cheerful fire and an open window; where you know what the food is which you are eating, and that your stomach may be trusted satisfactorily to deal with it."

Never having previously had the opportunity of visiting Torquay, and being wishful to learn something about it before making its acquaintance, I looked for information concerning it in various gazetteers and guide-books, and briefly, this is what I found. That Torquay, nestling at the foot of a semicircle of hills upon a sea-girt promontory, opens southward upon a most delightful bay, somewhat suggestive of that of Naples. That, being surrounded by the sea on three sides, its climate is exceedingly mild—the mean winter temperature being 45° F.—and that it thus possesses the most equable climate in England. That the town is thoroughly sheltered to the north and to the north-east; that it secures 84 per cent. of all possible sunshine throughout the year; that it draws abundant and jealously protected supplies of the purest water from Dartmoor, and that it is in the happy possession of an altogether perfect system of drainage. Never, I should think, has any town received higher credentials! But this testimonial differs from that set forth in many of the high-flown documents such as we from time to time are called upon to read, in that it is, so far as I can ascertain, at least, absolutely true in every particular. I found also in my readings that hereabout the myrtle flourishes in the open, attaining a considerable age and growing to an unusual size, and that the tender citron tree, which also at Torquay lives happily out of doors throughout the winter, has been known to produce fruit, in these circumstances, which has measured no less than 24 inches in circumference. If *cognoscitur fructâ* may be applied to a town as well as to a tree or an individual, this historic citron should suffice to show that Torquay is a most remarkable spot, and fully worthy of the honour which she has received, of being called "The Queen of English Watering-Places." Indeed, as I read the descriptions of Torquay, I wondered how it could be possible that she could find employment for enough practitioners to constitute a medical society, or that any illness could dwell within her gates.

Having thus made the acquaintance of Torquay as far as it was possible to do so from representations conveyed by printers' ink, I had no difficulty in settling upon a subject for the address this afternoon. The geographical situation of your town and its physical characters show that it must be peculiarly well suited during the coldest months of the year as a residence for people suffering from tuberculous disease, and the special form of it with which I propose to deal is tuberculosis of the peritoneum. Someone may say, "Why speak of the disease as '*tuberculosis of the peritoneum*'; why not call it tuberculous peritonitis?" Really, I do not very much mind. But inasmuch as the word *peritonitis* suggests that the essential feature of the disease is *inflammation* of the large serous membrane, the term

is certainly not well chosen, for the cardinal signs of inflammation are, or may be, conspicuously absent during the chief part of the course of the affection. The word *peritonitis* would suggest to many persons that the patient is lying on his back, with his knees drawn up to diminish the pressure of the anterior abdominal wall upon the tender omentum and the greatly distended intestinal coils. That, notwithstanding this elevation of the knees, the patient is in dire distress; that his face is probably flushed and his temperature is high,—if these are actually the clinical features which the young practitioner pictures to himself as being associated with tuberculous peritonitis, the probability is that he will not hit off a correct diagnosis in the first case which he sees.

I shall speak of the disease, then, as a tuberculosis of the peritoneum, if only to clear away the misconceptions which might possibly be suggested by using the word ending in "itis." The disease may come on as quietly as may a tuberculosis of the epididymis, the presence of which is often only accidentally discovered. And we all know that there are other tuberculous conditions in which localisation takes place in an equally quiet manner. For instance, we are asked to see a young woman whose mother has noticed that her back is, to use the common expression, "growing out," and we find an angular deformity which is unmistakeably the result of tuberculous disintegration of the bodies of certain vertebræ; yet the girl assures us that she has never at any time had a definite ache or pain in association with it.

Very great difficulty sometimes attends the making of a correct diagnosis of tuberculosis of the peritoneum. Thus, a year or two ago I had under my care a little girl with an obscure swelling in the right lumbo-inguinal region. It was about as large as a duck's egg, and if there was no fluctuation in it at any rate it seemed to fluctuate. It was elastic. It was not in the least tender. It was not connected with the uterus nor, so far as could be made out by rectal examination, had it any association with ovary or pelvis. It was immoveable; and all round it, but not in front of it, was resonant intestine. The child lay on her back with her legs down flat. Her temperature chart showed nothing of clinical interest. On opening the abdomen in the middle line the tumour was found to be a large collection of tuberculous serum locked into, and tightly distending, a space among-st adherent coils of intestine. So, having swabbed it out, we closed the abdomen, and sent the child back to bed.

In the matter of diagnosis, I believe that an unusually large amount of assistance in these cases can be obtained by looking at the patient. One is asked to see a youth who complains of feeling uncomfortable in his belly. The young and energetic practitioner at once pulls down the bedclothes and begins to make a careful local examination. Not so the experienced practitioner, however. He sits down at the bedside and starts a friendly conversation with the patient, looking carefully at his face, though apparently occupied only with the remarks which the man is making in connexion with the topic which the practitioner has already started. He notices his earnest look, his pale, or perhaps, slightly-flushed cheek; his pinched appearance, his bright eye. He takes his hand, and, while apparently feeling his pulse, he is grasping his poor, lean wrist and noting his delicate, moist skin. He hears him confess also, in answer to a question put in the most casual way, that he has been steadily losing flesh of late.

For some years I served on a committee on which also sat a senior colleague who used to take great interest in the selection of candidates for a certain office, and in the execution of our duty he used to say, "I don't place much faith in testimonials; let me have a look at the man and I shall be able then to form a probably correct estimate of his fitness for the post." He was quite right. The copy-book headline tells us that we are not to judge from appearances; but the medical man who followed that advice would make a poor diagnostician. There are some diseases which write their name, as it were, upon the appearance of the patient, and tuberculosis is one of them. May I refer once more to this question of diagnosing by appearances? You, as physicians or general practitioners, are asked to see a young lady who is not as well and strong as her anxious parents would like her to be. You cast your eye over her, as the horse-dealer would say, and you do not like the look of her. She is poor, cold, miserable, and you say to yourself, "I expect that she is tuberculous." But when you come to examine her you can find nothing definitely wrong with her; you cannot discover a single organ, gland, joint, or other tissue which in the least degree inclines from perfect health. So you have judged from appearances, and now physical signs are shaking their head at you, and taking you to task for having formed so precipitate and unwarrantable a conclusion. Are you going to alter your opinion because facts seem all against you? Well, a man of the world would not, but he would enter in a business-like way into every detail of the patient's environment just as if he had detected clear evidence of tuberculosis. He would insist on her being properly clothed, fed, exercised, and generally taken care of, and with the result that she will get quite well—probably without taking an ounce of medicine. And that is how it is that the man of the world turns out such a successful practitioner. We have seen it in the case of fellow students of our own; in men who were no good at book-work or examinations; who were not as clever as ourselves at palpation, auscultation, and analysis, and who were perfectly satisfied with the very moderate qualification which it took them an unusually long time to obtain. Yet they are now going straight ahead in practice, and, perhaps, leaving us a bit behind.

Showing how slight the symptoms may be in tuberculous peritonitis, and how unexpectedly the surgeon may stumble across miliary tubercles in the peritoneum, I may mention the case of a boy who came under my care for the radical treatment of his inguinal hernia. He had had some little abdominal discomfort, such as a boy with an unmanageable hernia is apt to have, but it was not serious enough to attract our attention, or to suggest that he was not in a fit state for undergoing the radical treatment. Nor had he any elevation of temperature, for if he had I should certainly not have proceeded to perform a serious cutting operation about which there was absolutely no urgency. But when I opened the funicular process of the peritoneum, an unusually free escape of serous fluid took place, and a long piece of omentum came out peppered all over with miliary tubercles. This boy made an uneventful recovery from his operation, and when I heard of him a year or two afterwards there had been no further manifestation of his tuberculous diathesis.

Very likely the only complaints of the patient with tuberculosis of the peritoneum will be of a dyspeptic nature, or there may possibly be gripings with either constipation or diarrhœa and perhaps vomiting. The characteristic feature of the disease is that the patient steadily wastes. Some of these cases of tuberculosis of the peritoneum with effusion are most puzzling. I have recently had another instance of that sort, in which, from the formation of adhesions of viscera serous fluid was locked up in two separate and distinct cavities. One must always be on the look-out for such conditions, for, from the nature of the disease, the effused fluid cannot always be loose in the general peritoneal cavity, as happens in the case of an ordinary ascites. Together with the effusion in tuberculosis of the peritoneum there are sometimes to be made out hard masses of omentum, which have been rolled together and glued to the thin abdominal walls in one or more situations. These masses are highly suggestive of the case being tuberculous.

Though the subject of tuberculosis of the peritoneum may be in an apparently hopeless condition resort to abdominal incision may, in some mysterious way, quickly restore him to robust health. The first case of this sort which was put on record occurred nearly 40 years ago in the practice of Spencer Wells. It was the case of an unmarried lady, aged 22 years, whose abdomen was as large as that of a woman near the full period of pregnancy; it was distended uniformly by fluid which gravitated with each change of position. Taking all things into consideration, and looking at the appearance of the patient, Spencer Wells made the diagnosis of tuberculous peritonitis. Some months later the abdomen became more prominent; it was dull anteriorly in all positions of the body, and it was resonant in both flanks as she lay on her back. Moreover, on her taking a deep inspiration a cyst appeared to move downwards from the epigastrium; so, doubting the accuracy of his first opinion, Wells made an exploratory incision. No cyst appeared, but much opalescent fluid escaped, and the whole of the peritoneum was seen to be studded with myriads of tubercles. Some coils of intestine were floating, but the great mass, all nodulated by tubercle, was fixed with the colon to the posterior abdominal wall. Nothing further was done; the wound was closed and dressed, and it healed in due course. The patient completely recovered, and she

married; and when the illustrious surgeon heard of her, 22 years later, she was well.

Permit me to record a case of the sort which has recently been under my own care:—

A young man, aged 17 years, was admitted into St. Mary's Hospital, on Feb. 20th, 1901. His father had died from inflammation of the lungs six months before his birth. A few days before Christmas, 1900, he caught cold and had a severe cough. In the beginning of January, 1901, he noticed discomfort in the abdomen; it was a constant "sore feeling," and two or three times a day a smart pain used to shoot from the left side across to the right. He put a flannel band round his abdomen, but he did not stay indoors. After meals he used to feel "blown out," and the discomfort was greater when he was standing up than when he was lying down; he could not stand up *straight*. The pain did not interfere with his sleep. He remained about the same till Feb. 11th, when the pains became far more acute; so he went home from work and saw a medical man, who told him to keep indoors and to have very light food. From that time the pains began to keep him awake at night and he had to spend most of the day sitting down. On the 17th the pains became more frequent, and they extended down to the anus. The abdomen was painful when touched, or when he coughed. On the morning after his admission the dresser wrote the following description of him:—"He is a pale, thin, delicate-looking young man, and his whole body seems to be slightly wasted. He lies flat on his back in bed. The abdomen presents an almost normal appearance; there is only a slight distension, which is best marked over the descending colon. There are no lumps to be felt anywhere, and the abdominal wall is not tense; there is resonance in front and on both sides of the abdomen. There is pain on pressure in the left flank." From Feb. 21st to April 19th he remained under supervision in hospital, sometimes a little more comfortable, sometimes a little less, and the daily reports call attention to the fact that occasionally he lay with his knees drawn up. Local swellings and tenderness of the abdomen were noted from time to time; but under careful dieting and general treatment the man seemed to be so much better that, though we had made up our mind that he had probably tuberculosis of the peritoneum, we thought his condition scarcely justified a resort to laparotomy. We sent him, therefore, to Parkwood to see what the effects of a three weeks' stay at a convalescent home might be. When he was readmitted to St. Mary's Hospital (on May 10th) he was greatly improved, but he said that he had suffered from increasing discomfort in the preceding three days, and that his bowels had not acted during that time. The pain was now diffused all over the abdomen and it was more marked after taking food, or when he was moving about. The whole abdomen was distended, and it was tender everywhere on deep pressure. There was a hard lump at the upper part of the left lumbar and umbilical regions, which was dull on percussion, but it was almost impossible to estimate its size and shape as the abdomen was very tense. On May 23rd the abdomen was more distended and painful; but he was sleeping well, and the temperature remained normal. Operation was, however, decided on.

Operation.—After due preparations an incision of three inches was made (on May 30th) at the outer border of the left rectus muscle; the peritoneum was then picked up with forceps and the great omentum was seen to be adherent to it. A piece of the omentum was brought out and found to be covered with tubercles, varying in size from that of a small to that of a large shot. About one pint of clear yellow fluid came out. On putting two fingers inside the peritoneal cavity, a large quantity of tubercles could be felt, especially on the posterior surface of the left rectus. The wound was sewn up, dressed with wool, and finished with a tight binder.

After the operation everything went on very well. On one occasion the temperature rose to 100·2° F., but, as a rule, it remained at normal. The dressings were removed on the eighth day, the wound being soundly healed. At the end of the third week he was out in a wheeled chair, and was saying that he felt "perfectly well." He was discharged at the beginning of July, feeling, as he said, "very well," and Mr. Paton, my late house surgeon, reports that he is continuing in, apparently, perfect health. At the operation I pulled out several pieces of intestine and of omentum in order to demonstrate to the students the extensive dissemination of the tubercles, and on my inviting Mr. Paton to pass his hand into the abdomen to feel how hard and rough the serous surfaces were, he remarked that it felt almost as if he had got his hand into a bag of barley! Exploration showed that the indefinite tumour which we had noticed upon the left side was due to the omentum having glued itself up into a hard mass at that spot.

I propose to trouble you with only one more clinical record; it is that of a miserable-looking boy, aged six years, who came under my care at St. Mary's Hospital on May 5th last. He was much wasted; his temperature was 101° F. He had been steadily losing appetite and getting thinner since last Christmas, and he had been troubled with a cough all the winter. He had had pain in the abdomen for three weeks, and the notes of his case say that a fortnight before his admission his sister had found a lump at his navel. His bowels had been confined, he had occasionally vomited, and he sweated at night. He lay flat in bed with his legs down straight, but he was still able to walk about. His abdomen was distended; the skin over it was thin and shining and was marked in front by large veins. The distension could not be due to the presence of much ascitic fluid, for there was universal resonance. The abdomen moved freely with respiration. The apex of the heart was pushed up into the fourth space. There was consolidation of the apex of the left lung, and there was considerable congestion of both bases. On the third day after his admission I made a two-inch incision below the umbilicus and found the omentum and intestines covered with tubercular nodules, some of which were as large as peas, and many of them were caseous. The viscera were much matted together, and on effecting their separation a good deal of bleeding took place. There was no free fluid in the peritoneum. Without anything more being done the wound was closed and the dressings were applied. For some reason or other, nothing further is noted in the clinical record until the fifth day after the laparotomy, when there is a statement to the effect that though the child had been troubled by a good deal of sickness after the operation, he had already begun to eat and to sleep well; that he had no more pains; that the temperature was normal and that he was cheery and happy. On the ninth day the stitches were removed and the wound was dressed with collodion; and 10 days later it was noted that although there was still some evidence of disease at the apex of the lung, all crackling had disappeared, and that the congestion at the bases had completely gone. Five weeks after the operation he was sent to a convalescent home and when I last saw him, on July 21st, he looked almost robust, and his father assured me that he was perfectly well and strong.

Let me call special attention to one detail in the foregoing report—it is that after the operation, not only did the congestion clear up from the base of each lung, but that a strong suggestion of phthisis at one apex practically ceased to exist. That is to say, the operation for the tuberculosis of the peritoneum had cured not only the abdominal but also, so far as it went, the pulmonary affection. Weisswange has reported[1] several cases which, in a somewhat similar manner, illustrate the recovery of patients from tuberculous disease of the lungs or of the bones after being operated on for tuberculous disease of the peritoneum. The first case was that of a girl, five years of age, who had tuberculous enlargement of the left index finger, and who, after some time, became the subject of a painless enlargement of the abdomen. She was extremely thin, and the ascites was very pronounced. There was "spina ventosa" of the index finger, in addition to other manifestations of tuberculosis of the bones. At the laparotomy three or four pints of clear fluid escaped, and a general tuberculosis of the abdominal viscera was revealed. The wound was closed. The swelling of the finger gradually subsided. Subsequently there was a slight recurrence of the ascites which, however, passed away spontaneously, another finger becoming affected. But from that time she made a complete recovery.

A second case was that of a boy, aged eight years, who was attacked with high fever and who had spitting of blood in connexion with tuberculous disease of the left lung, and who also had tuberculous disease of the peritoneum with ascites. He was treated by laparotomy. The peritoneum was found to be greatly thickened and studded with tubercles. The ascites entirely disappeared, and the unhealthy condition of the lung began to improve from the day

[1] Münchener Medicinische Wochenschrift, July 15th, 1902.

of the operation. The boy steadily increased in weight and all cracklings passed away from the lung. Five years later Weisswange saw him, lively and well. A third case which he narrates is that of a girl, nine years of age, with marked ascites and with hæmoptysis. Laparotomy was performed in 1897, and the girl made a marvellous recovery. Another case—that of a girl aged 15 years,—was very similar.

Reports of this nature are extremely interesting and important, and they ought to set us speculating as to whether we do fully understand the natural history of tuberculosis. Do we, for instance, understand this disease as clearly as we understand—or think we understand—syphilis or cancer? I very much doubt it. If we talk to the pathologist about tuberculosis, he will tell us how it is caused by the presence of certain bacilli, and that when they get into a spongy bone (such as the scaphoid, or any other carpal or tarsal bone), they will keep on multiplying, and, probably, in due course, will issue thence to infect various other tissues, so to complete the destruction of the individual. And if the pathologist happens to be also an operating surgeon he will promptly advise excision of the affected bone. When it is said that few men are as good as their creed, an exception must be made for the surgeon-pathologist. If a patient in whom tubercle is attacking the soft spongy tissue of the body of one of the upper dorsal vertebræ is brought to the surgeon-pathologist, what is he to do? He cannot attack the focus with a sharp spoon or flushing gouge; he is compelled by adverse anatomical circumstances to leave it severely alone. Is it your experience, or his, that those bacilli do usually spread from that spot and destroy the patient? It is not mine. My experience is that if the affected bone is kept in absolute rest and the patient is well looked after, the spinal disease passes absolutely away, with, or without, leaving a certain amount of deformity in the back. How would the pathologist account for the disappearance of these myriads of tubercles, which filled the peritoneal cavity as with corns of barley, after a mere incision? And if the bacilli can clear away from their favourite peritoneal incubation-field without scrapings and flushings, might they not be more gently dealt with when they have invaded a bone of the wrist or foot? And if a patient can recover spontaneously from one tuberculous focus why not from two foci? If a person happens to have tuberculosis of the peritoneum as well as Pott's disease, for instance, or disease of the hip-joint, we must by no means assume that the case is hopeless, that the individual is, to use a familiar expression, "riddled with tubercle" and beyond the reach of active surgical help. We should, on the other hand, set the more vigorously to work and do our utmost to improve the general condition, beginning, in all probability, with the laparotomy. I am sure that we lose sight too often of the *individual* in these cases (I am not, of course, referring to the surgeon-pathologist). I mean that we keep our eyes fixed so closely upon the bacillary focus that we are apt to forget that if the patient is given a little kind and gentle help by his medical attendant he may be enabled to triumph over the mean and cowardly tuberculous foe.

One cannot at present satisfactorily explain the way in which tuberculous peritonitis is relieved, and in many instances cured, by an incision into the abdomen. Is it by letting in air or by letting out fluid? It certainly is not due to the treatment of the peritoneum by antiseptics, as was at first surmised, for no antiseptics are now used in these operations, and the result remains the same. Of course, I do not mean that the result is in all cases a cure. Still, the proportion of cures is so large, that in every case of even doubtful tuberculous peritonitis that is hanging fire (and most cases do hang fire) an incision ought to be made into the abdominal cavity, and the patient afforded a chance of obtaining a recovery which, without such operation, would scarcely be possible.

A MEMORIAL TO THE LATE DR. WYMAN OF PUTNEY.—A fund has been started for the purpose of erecting a suitable memorial to the late Dr. William Sanderson Wyman who resided in Putney for upwards of 32 years and who was held by his numerous friends, patients, and neighbours in the highest regard. The nature of the memorial will depend on the amount of subscriptions received. It is suggested that a tablet should be placed in St. John's Church, Putney, the place of worship which Dr. Wyman used to attend. Mr. J. S. Longden of "Dilkoosha," Putney, will receive and acknowledge subscriptions.

Three Lectures
ON
SOME MORBID CONDITIONS OF THE MOUTH.

Delivered at the Medical Graduates' College and Polyclinic on Feb. 10th, 17th, and 24th, 1902.

BY EDMUND W. ROUGHTON, B.S. LOND., F.R.C.S. ENG.,

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LECTURE III.[1]

Delivered on Feb. 24th, 1902.

GENTLEMEN,—In my first lecture I drew attention to the fact that the line of penetration in dental caries is often in the direction of the pulp, so that the latter may become more or less deprived of its natural covering and infected by the bacteria of the mouth. Inflammation ensues and very often leads to death of the pulp which becomes a decomposing necrotic mass. It must be remembered, however, that death of the pulp may occur in the absence of caries and that micro-organisms circulating in the blood may reach the pulp chamber of a tooth which a casual observer might regard as a healthy one. One of the commonest results of a dead and septic pulp is an

ACUTE ALVEOLAR ABSCESS.

Before describing this disease I must remind you of the anatomical relation of a tooth to its socket. The former does not completely fill the latter like a nail driven into a board. At the apex of the socket there is an appreciable space which the tooth does not occupy. This is known as the "apical space" and contains the vessels and nerves for the supply of the tooth inclosed in connective tissue. Lining the rest of the socket there is a fibrous structure, the pericementum or peridental membrane, which acts as a periosteum to the socket and to the root of the tooth. The pulp cavity is continued as the root canal to the apex of the root. It is thus easy for bacteria in the pulp to extend to the apical space by direct continuity of growth or by the mechanical forcing of infected material through the apical foramen. This may result from the pressure of mastication when the open root is filled with soft contents or from the pressure of gases accumulating in the canal, or from dental operations. Having reached the apical space the bacteria will set up an inflammation the intensity of which will, to express it algebraically, vary directly as the virulence of the germ and inversely as the resisting power of the tissues; thus should a virulent pyogenic coccus invade the apical space of an anæmic strumous child or a broken-down syphilitic adult the result would probably be a very acute abscess, whereas should the invading organism be of low pathogenic power and the tissues healthy the inflammation may never reach the stage of suppuration. In acute cases the apical space is soon filled with pus, and as the latter accumulates pressure is brought to bear upon the surrounding walls; this pressure, together with the peptonising action of the bacteria and the decalcifying action of the osteoclasts in the inflamed bone, causes rapid extension of the abscess cavity until it reaches the compact bone at the surface of the alveolus; here the rapidity of the process is impeded by the density of the bone, but sooner or later the compact layer is perforated, the aperture being usually through the external or buccal wall of the alveolus, as that is thinner and therefore offers less resistance than the inner or lingual wall. The periosteum is next attacked; generally this is at the gum immediately over the apex of the tooth. The periosteum is thus readily perforated, being supported by mucous membrane only. In some cases, however, when the root of the tooth is a long one or the abscess extends more deeply in the jaw, it may reach the periosteum at a spot where it is backed up by the muscular and other tissues of the cheek; the periosteum is then less readily perforated and the pus strips it up from the

[1] Lectures I. and II. were published in THE LANCET of Sept. 27th (p. 847) and Oct. 18th (p. 1059), 1902 respectively.

subjacent bone, depriving it of a very important source of blood-supply. In the lower jaw this stripping of periosteum is very liable to produce necrosis, but in the upper jaw, the blood-supply being freer and from several sources, extensive stripping of periosteum may occur without the vitality of the subjacent bone, being endangered. I have frequently seen the periosteum of the hard palate raised for a considerable area and yet no necrosis occurred. It is in cases of alveolar abscess stripping the periosteum from the outer or buccal aspect of the jaw that the pus is apt eventually to point upon the face, leaving a depressed fixed scar which, especially in the female, is very disfiguring. An alveolar abscess in connexion with any tooth in the upper jaw may open into the antrum and infect the lining membrane of that cavity. The first molar is, on account of the relation of its roots to the floor of the antrum, the tooth which most often involves it. As far as my experience goes, empyema of the antrum of Highmore is much more frequently of nasal origin than secondary to dental disease and much more amenable to treatment by drainage and irrigation in the dental than in the nasal cases. Occasionally an alveolar abscess in connexion with the incisor teeth may open upon the floor of the nose and produce a discharge that may be mistaken for a purulent nasal catarrh unless a careful examination be made. In a few cases, whilst the abscess is still small, its contents may escape through the root canal or may reach the surface by burrowing between the tooth and its socket.

The first symptom of the onset of an acute alveolar abscess is a gnawing, uneasy feeling of tension in or about the tooth, with a desire to bite upon it. This feeling of tension is produced by the hyperæmic condition of the blood-vessels of the peridental membrane and is relieved for the time being by forcibly biting upon the tooth, the pressure thus exerted driving the blood out of the congested vessels for a few moments. The tooth soon begins to feel longer than the others and slightly loose. The gum around the tooth becomes swollen and painful, and the margins assume a red or purple hue. With the formation of pus the pain becomes more severe and of a throbbing character and is no longer relieved by biting; on the contrary, biting makes it worse and the tooth is tender when percussed with a steel instrument. When the pus escapes from the bone the pain abates considerably but does not cease; the swelling of the gum increases and softens at its most prominent point and may yield the sense of fluctuation if large enough. In some cases, especially where the periosteum is much stripped up and the tissues of the cheek are involved, the face may swell to such an extent as to close the eye on the affected side and to push the mouth over to the healthy side, the features being greatly distorted. In mild cases the constitutional symptoms are not sufficiently severe to be noticed, but it is not uncommon for the temperature to run up to 103° or 104° F. and to be attended by febrile symptoms of proportionate severity. When the abscess bursts or is opened all the symptoms abate very rapidly, the fever subsides, the pain stops, the swelling of the face goes down, and the gum reverts to its normal condition with the exception of a small opening through which pus continues to exude for a longer or shorter time. Under efficient treatment the discharge soon ceases, but if the source of irritation remains the discharge becomes chronic.

It must be borne in mind that although the great majority of cases of acute alveolar abscess terminate favourably, even when untreated, yet sometimes a fatal result ensues. I have met with three such cases in my own practice.

CASE 1.—The first case was that of a boy, aged seven and a half years, who sat in a draught at school on a certain Saturday morning. The same night he complained of pain in the left side of the face; on Sunday his medical attendant saw him and found the left side of the face swollen and the temperature 105° F. The gum in the left lower molar region was swollen and tender, but the mouth could not be opened sufficiently to inspect the parts satisfactorily. On Monday and Tuesday the condition was about the same, the temperature ranging from 103° to 104°. On Wednesday rigors occurred. On Thursday the swelling of the face was less, but it had extended to the parts under the jaw as if an alveolar abscess was about to p int; he was slightly delirious. On Friday the swelling had extended further down the neck almost to the clavicle. I saw the boy in the afternoon. After chloroform had been administered I incised the swelling in the neck; no pus was evacuated, but the tissues looked inflamed and as if about to slough. On opening the mouth I found the teeth in the affected jaw to be free from caries, but the first permanent molar was quite loose and pus welled up around it on making pressure on the gum. I removed the tooth, evacuated the collection of pus, and cleaned the part as effectually as circumstances permitted. Next day peritonitis and pneumonia developed and the boy died eight days from the onset of his illness. No post-mortem examination was permitted, but the cause of death was evidently pyæmia. A point of great interest in the case was that the tooth from which the trouble seemed to originate was apparently perfectly healthy. It was certainly free from caries, but, unfortunately, it did not occur to me to split it open and to investigate the condition of the pulp. I thought at the time that the absence of caries was sufficient to exonerate the tooth from any blame in connexion with the suppuration which surrounded it and I regarded the case as one of acute infective panosteitis similar to that which is so often met with in the tibia of children. But I have since learnt that micro-organisms may be carried to the pulp of a tooth by the blood stream, may set up gangrenous pulpitis, infect the apical space, and so produce an alveolar abscess in connexion with a tooth which is free from caries and therefore apt to be mistaken for a healthy one.

CASE 2.—The notes of the second case are not so complete as I should wish, as I was out of town during the latter part of the illness. A married woman, aged 27 years, came to my out-patient department at the Royal Free Hospital on June 6th, 1899. She said that she had had trouble with the right lower wisdom tooth for two months and that a few days previously her face swelled and she was unable to open her mouth. I referred her to the National Dental Hospital where the tooth was extracted under gas. The operation was followed by great pain and increased swelling of the face, consequently on June 9th I admitted her to the hospital. Her condition on admission is thus described in the notes: "Looks ill and worn out with pain. Temperature 101°, pulse 100. She is eight and a half months pregnant. There is great swelling of the right side of the face, including the eyelids and lips, so that the eye is closed and the mouth pushed over to the left side." On June 10th an anæsthetic was given and the mouth was opened with a gag. An incision was made through the mucous membrane of the cheek near the lower molars; a quantity of extremely fœtid pus and slough came away. A finger inserted into the wound penetrated readily as far as the skin which was consequently incised. No improvement resulted, and on June 14th two small openings had formed in the right lower eyelid and discharged pus. An incision was made below the outer canthus and the malar bone was found to be necrosed. Her temperature was 103° F. On June 16th she was confined. The labour was easy and the child survived. On the 17th she complained of pains in the head; she was very weak and hardly able to answer when spoken to. Her temperature was 104°. She became unconscious next day and died early on the morning of the 19th.

At the post-mortem examination the cellular tissue of the orbit and the surrounding parts was found to be infiltrated with pus; the malar bone and a large area of the frontal bone were necrosed; the right temporal muscle was much softened, greyish-green in colour, and very offensive. There was a considerable amount of greenish pus in the middle and anterior fossæ of the skull on the right side; the inferior surface of the right frontal lobe was breaking down, and there was an abscess of the size of a plum in the extremity of the temporo-sphenoidal lobe. In this case the bacterial invasion seems to have spread upwards into the pterygo-maxillary fossa and the orbit. The interior of the skull was probably reached by bacterial extension along the veins and lymphatics passing through the base of the skull.

CASE 3.—The third case was remarkable in many respects. A man, aged 36 years, first noticed a swelling in the region of the angle of the jaw on the left side in November, 1900. He had no pain of any kind. After three weeks he consulted a medical man who removed a carious left lower molar. As the swelling increased the patient went to the National Dental Hospital, where I saw him on Jan. 10th, 1901. At that time there was a large inflammatory swelling involving the region of the angle of the jaw and extending upwards on to the cheek, forwards to the submaxillary region, and backwards over the sterno-mastoid muscle. The gum in the molar region was swollen,

but the exact condition within the mouth could not be ascertained as the movements of the mandible were greatly restricted. The skin over the swelling was red and œdematous. The whole appearance suggested the presence of deep-seated suppuration in connexion with an alveolar abscess, but there was marked absence of pain, tenderness, and fever, the temperature being only 99° F. I sent him on to the Royal Free Hospital, where my house surgeon incised the swelling and evacuated a little serum but no pus. I admitted him as an in-patient on Jan. 18th. Hot fomentations were continually applied in the confident anticipation that the swelling would suppurate freely and then clear up. But nothing of the sort happened; the swelling increased slowly and steadily and declined to resolve or to suppurate—as the patient expressed it, "It didn't improve one way or the other." On Feb. 6th I explored the swelling under chloroform and removed two or three small pieces of dead bone. There was a large quantity of soft, friable granulation tissue but no collection of pus. A carious lower molar was also extracted. No improvement followed. On the 19th a sequestrum about an inch square was removed. On the 28th the lower jaw fractured spontaneously. The swelling gradually extended down the neck and on March 9th it was noticed that the larynx and trachea were pushed over to the right. On the 12th an anæsthetic was again administered and the swelling in the neck freely incised. Much granulation tissue was found but again no collection of pus. Three small pieces of dead bone and a loose tooth were removed from the lower jaw. Some of the granulation tissue and serous discharge were examined microscopically and bacteriologically. In a film preparation all the common mouth bacteria were present in abundance. An agar tube developed an almost pure culture of streptococcus pyogenes. There was no actinomyces. On the 14th dyspnœa, apparently due to œdema of the glottis, supervened and on the 16th tracheotomy was necessary. On the 26th the tracheotomy tube was removed and the patient breathed per vias naturales, the glottic œdema having presumably subsided (no laryngeal examination was at any time possible). The wounds in the neck now assumed a phagedænic character and the skin between them sloughed so that the whole side of the neck was one large foul chasm. Fluids taken by the mouth returned through the neck and through the tracheal opening. Nasal feeding was resorted to. On the 30th a sudden severe hæmorrhage ended the patient's life.

At the post-mortem examination it was found that there was a hole in the common carotid artery three-quarters of an inch below the bifurcation. The left side of the mandible was destroyed from the neck as far forward as the socket of the lateral incisor tooth. The internal organs were healthy and there was no evidence of pyæmia.

I have certainly never seen a case like this before, nor can I remember having read of anything exactly similar. In reviewing the notes the following points appear to me to be worthy of attention. 1. The absence of pain from first to last; there was no toothache at the beginning; it was on account of swelling and inability to open the mouth that the patient sought treatment. Even when the swelling was red, tense, and œdematous, looking as if it should be exquisitely painful, there were no pain and but little tenderness. 2. The slight degree of fever. During the 10 weeks he was in hospital on only two occasions did the temperature exceed 100° and that was after the tracheotomy. 3. The formation of a large quantity of callous granulation tissue exuding a thin serous discharge, a condition that suggested the possibility of actinomycosis. 4. The almost entire absence of suppuration. At no time was there any definite collection of pus. Incisions were frequently made into parts that looked sure to contain pus, but we always evacuated the same serous, non-purulent discharge. 5. The process was a purely local one. There was no general infection and so far as one could judge from the temperature and general condition there seemed to be but little absorption of toxins. But although local, it was progressive; the disease seemed to follow its own course in spite of the freest incisions and the most lavish use of antiseptics. 6. The supervention of a rapid ulcerative process which caused death by laying open the carotid artery. There can be no doubt that in this case the disease was due to bacterial invasion and that the carious tooth opened the door to the enemy. I am inclined to think that the peccant organism was the streptococcus pyogenes. We are accustomed to associate this organism with diffuse inflammatory affections but as a rule they are distinctly suppurative in character.

The treatment of acute alveolar abscess must be energetic and conducted on sound surgical principles. To cure a disease the cause must be removed. This does not mean that in every case the tooth which is the cause of the trouble must be ruthlessly extracted. I fear that it is too commonly the practice amongst medical men, and particularly in the casualty rooms of general hospitals, to treat all cases of toothache by extraction. A tooth is a valuable asset and should not be sacrificed without good reason. In the early stage of peridental inflammation the disease may sometimes be aborted and suppuration prevented by judicious treatment. The gangrenous and putrefying pulp should be removed and the roots canals rendered aseptic by irrigating them with antiseptic drugs. As this performance requires special technical skill the services of a dentist should be called in if possible; but in the absence of dental skill the surgeon can do no harm by trying his hand at sterilising the pulp chamber and may by his efforts, seconded by scarification of the gum and a sharp aperient, succeed in averting suppuration. If these measures fail to avert the suppurative process the abscess cavity must be reached as soon as possible by surgical means. If the tooth is so extensively decayed that there is little or no prospect of rendering it a useful article in the future, or if there is no opposing tooth in the other jaw to bite against, or if for any reason the urgency of the case demands it, extraction should be performed as soon as possible. Should it be determined to preserve the tooth the abscess may sometimes be reached by enlarging the root canal, but in most cases an opening must be made through the outer alveolar plate. This may be done almost painlessly by injecting a drop or two of a 2 per cent. solution of cocaine hydrochlorate into the gum over the affected root; a triangular flap is then cut in the gum, the apex being towards the crown of the tooth; then with a small drill or trephine the bone is penetrated and the apical space is cleared out. A small gauze drain is inserted and the abscess cavity is irrigated daily until the inflammatory symptoms subside, when the proper dental treatment may be undertaken.

As a general rule, patients of the poorer class do not apply for treatment until the pus has itself perforated the alveolus and has formed a "gum-boil." Here a free incision through the swollen gum right down to the bone should be made at once; the condition of the tooth may be considered in a few days' time when the swelling has subsided. A mild warm antiseptic mouth wash should be used in the meantime. In cases of deep-seated alveolar abscess where the pus strips up the periosteum rather than perforates it an early and free incision is imperatively demanded to minimise the risk of necrosis and of the abscess opening upon the face. The common practice of poulticing the face in such cases cannot be too strongly condemned; every effort should be made to evacuate pus inside the mouth and to prevent the abscess bursting on the face. Where the tissues of the cheek are inflamed and an external opening is threatened it may sometimes be averted by painting the skin with flexible collodion, but when an abscess cannot be prevented from opening on the face it had better be incised, as less scar results than when it is allowed to burst. When pus burrows into the neck free incisions must be made to avert the dangers which are well known to attend the spread of suppuration between the layers of the deep cervical fascia. Should the occurrence of rigors and other symptoms indicate the onset of pyæmia the question of excising the veins leading from the infected area or ligaturing the internal and external jugular veins must be considered. Acting on the same principles that guide us in cases of infective thrombosis of the sigmoid sinus Arbuthnot Lane has excised the infected veins in a case of pyæmia secondary to alveolar abscess but without success.

CHRONIC ALVEOLAR ABSCESS.

Two forms of chronic alveolar abscess are usually described—the fistulous and the blind. The fistulous variety is nearly always the sequel of an acute abscess which has failed to heal owing to the exciting cause remaining in action, the abscess cavity dwindling down into a fistulous track. The orifice of the fistula is, as a rule, situated at the spot where the original abscess burst, usually, therefore, on the gum immediately over the affected root. But sometimes the original opening may close and the pus being dammed up may spread in another direction and obtain an exit

elsewhere. This process may be many times repeated, so that eventually the discharging orifice may be far removed from the original source of trouble. The direction followed by the pus is determined chiefly by the resistance of the tissues, but also to a large extent by gravitation; thus it happens that the opening is usually found at a lower point than the diseased root to which it owes its source. In the case of the lower jaw the pus may find its way to the surface near the lower border of the bone or entering the cellular tissue of the neck it may travel downwards even as far as the clavicle. In the upper jaw the opening when on the face is most usually found just below the prominence of the malar bone in the centre of a rounded depressed scar fixed to the bone by a fibrous cord which can be readily felt by introducing the finger into the sulcus between the cheek and the gum.

The blind variety of alveolar abscess has no external opening and is simply a small collection of pus in a fibrous sac occupying a bony cavity formed around the apex of the diseased root. A blind abscess may result from the closure of a fistulous opening, but, as already mentioned, the usual course is for the imprisoned pus to find vent again either at the same or at some other spot. In other cases the bacteria which have produced the trouble are of but feeble pyogenic power and only capable of setting up a chronic suppuration, or it may be that having set up suppuration the bacteria themselves die and the pus becomes sterile, the abscess no longer spreading but simply acting as a local irritant of low intensity. A somewhat similar thing sometimes happens in appendicitis; an abscess threatens to form but under medical treatment all acute symptoms subside. An operation is subsequently undertaken, perhaps several weeks after all fever and inflammatory symptoms have subsided, and in the search for the appendix a small abscess is discovered. I believe that the pus in these cases is usually sterile, the bacteria being dead.

The recognition of a case of chronic fistulous alveolar abscess is not, as a rule, difficult. There is a small sinus which discharges into the mouth either continuously or intermittently, and in the immediate vicinity there is a decayed tooth which is the obvious cause of the trouble. But the diagnosis is not always so simple as this. It must always be remembered that it is not necessary that a tooth should be decayed or in any way painful in order that it may be the cause of a chronic abscess; but it must have lost its pulp; consequently it is insensitive to heat and cold. In many cases the tooth will be discoloured by the absorption of colouring matter from the decomposing pulp. This discolouration may exist in any degree from a slight tinge to a deep black. In some cases there is only a slight loss of translucency. Difficulty may also arise from the remoteness of the fistulous opening from the tooth which is the cause of it, but the careful use of a probe, coupled with the knowledge that the point of discharge is usually below the source of the pus, will usually enable one to arrive at a correct diagnosis. In some cases a sinus goes on discharging after the tooth to which it is due has been extracted; sometimes this is due to a small fragment of dead bone being left behind at the apex of the socket; more often, in my experience at any rate, it is due to a portion of the root of the tooth being broken off and left behind. This accident is not unlikely to happen when the apex of a root is bent at an angle instead of being quite straight. I have frequently removed small fragments of teeth when scraping out sinuses which have discharged for a long time. One such case impressed itself upon my memory. It was that of a man, aged 30 years, who had had a sinus discharging on the gum near the roots of the upper canine and lateral incisor of the left side for a long time. A probe passed into the sinus impinged on something hard, whether dead bone or a buried stump it was impossible to say. An anæsthetic was administered and I was proceeding to expose the affected parts when the patient stopped breathing and the operation was interrupted. He was resuscitated with some difficulty and it was deemed wise to leave the operation unfinished. Naturally no benefit resulted. I lost sight of the patient for a year; when I next saw him the sinus remained in exactly the same condition. A second operation was then performed, two buried stumps were removed, and the sinus was scraped out. He recovered rapidly and completely.

It is very seldom that a chronic blind alveolar abscess is recognised until the affected tooth is extracted. Generally the patient has had a carious tooth which has been a more or less constant source of annoyance for a long time; perhaps the pulp chamber and root canals have been cleared out with a view to the tooth being filled, but no sooner is the filling put in than pain occurs and necessitates its removal. This process goes on until the patient or the dentist gets tired of it and the tooth is extracted, bringing away with it a little bag of pus attached to the end of the root, the diagnosis and treatment being simultaneously accomplished.

The treatment of the chronic fistulous alveolar abscess consists in removing the source of irritation—viz., the septic matter—from the pulp chamber of the affected tooth. If from any cause the tooth cannot be rendered useful if retained the proper course is to extract it at once. Provided no piece of stump or necrosed bone be left behind healing will soon follow even though the pus has burrowed to a great distance. Extraction is, however, not often necessary and I wish particularly to emphasise this statement because the idea is still too prevalent that the only treatment for a carious tooth is to extract it. I have myself frequently condemned teeth to extraction which have subsequently been saved and made useful by proper dental treatment. It should be clearly recognised that the treatment of such teeth is entirely within the province of the dentist and outside the domain of the general surgeon. In those cases in which an abscess has burst upon the face and left an ugly depressed scar the appearance may often be considerably improved by a small operation. If the finger be inserted into the mouth and a pull made outwards against the scar a round cord by which it is held down will be plainly felt. A tenotomy knife should then be passed through the mucous membrane of the mouth and while a strong pull is being made on the cord it may be cut off where it is attached to the bone; this will allow the cheek to come out to its proper fulness at once.

TREATMENT.

I have endeavoured in these lectures to point out the important part that the bacteria of the mouth play in the production of dental disease and other septic conditions within the oral cavity as well as the evil influence which they exert upon other parts of the body. It now remains for me to indicate the lines of treatment by which the mouth bacteria may be held in check and their morbid effects combated or at any rate mitigated; and in doing so I wish to refer to the subject as it concerns the general practitioner rather than to enter the sphere which is the exclusive property of the dentist.

PREVENTION OF DENTAL CARIES.

The treatment of teeth which are already carious must of necessity be almost entirely in the hands of the dentist, but the prevention of caries is a subject which should be within the sphere of every medical man who undertakes the general medical supervision and treatment of those of the community whom he designates his patients. General hygienic measures which tend to the development of strong tissues will be of benefit to the teeth as well as the rest of the body by increasing their power of resistance to disease. I have already pointed out that the substances which give rise to acid fermentation in the mouth belong almost entirely to the group of carbohydrates. The common opinion that putrefying meat gives rise to products which attack the teeth is probably erroneous, inasmuch as the products of a putrefying mixture of saliva and meat are always alkaline, and when particles of meat have remained for some time between the teeth they may even act as a preventive to decay, in so far as they tend to neutralise the acids produced by the fermentation of carbohydrates. In a mixed diet, however, unless the albuminous substances greatly preponderate, the reaction is still acid, although less strongly so than when the food is purely amylaceous. Sugar holds a high place amongst those foods which exert an injurious action upon the teeth, but probably the chief rôle is played by bread and potatoes, not only because they produce more acid, but because they, on account of their insolubility, may remain for a long time sticking to or between the teeth, whereas the readily soluble sugar is soon diluted or carried away. T. G. Read has found by experiment that the acidity in bread made from stone-milled flour increases to a very slight extent in the process of mastication, but with bread made from roller flour there is an increase of about 40 per cent. in the acidity after mastication. He thinks that the great increase in the amount of tooth decay which has occurred during recent years is in part due to the roller process having superseded the old-fashioned stone mill. It is, of course, impossible to banish carbohydrates from the list of foods, but we may do something for the

teeth if we prevent the constant and unnecessary consumption of sweets, &c., indulged in by many young and not a few grown-up persons. It is well known that acids introduced into the mouth as medicines or with the food may have a deleterious effect upon the teeth; it is advisable, therefore, when prescribing an acid medicine to advise the patient to rinse the mouth well after taking each dose. The reaction of mouth washes and gargles should be neutral or slightly alkaline. The value of perfect oral cleanliness is not generally understood by the public and is underrated or at any rate not sufficiently insisted upon by many medical men. Most people brush their teeth for purely cosmetic reasons and not to prevent disease. Mechanical cleansing of the mouth and teeth is the greatest of all prophylactic measures which can be used against dental caries and other morbid conditions due to oral sepsis, but it must be done thoroughly. The brush alone, even when used with intelligence, will not thoroughly remove débris from between the teeth, and it is necessary to supplement it with the use of the tooth-pick or with floss silk drawn between the teeth to free the proximal surfaces from all fermentable substances. This process should be repeated after every meal and at bedtime as well as upon rising in the morning if the best results are to be obtained.

The great improvements in general surgery which have been brought about by the introduction of antiseptics appear at first sight to suggest the possibility of banishing dental caries by the systematic use of antiseptic mouth-washes. But closer consideration shows that such a desirable result is, at present at least, out of reach. There are places in every denture which will remain completely untouched even by the most thorough application of the antiseptic, or if it reaches them at all it will be in so diluted a condition that it will have little or no effect; moreover, if the use of the antiseptic has not been preceded by a thorough mechanical cleansing its action upon carious centres will be next to nothing. Then, again, most antiseptics are either totally unsuited for use within the mouth or they must be used in very dilute solutions on account of their poisonous properties or their injurious effects on the tissues of the mouth; many useful antiseptics are excluded on account of their objectionable taste or smell. Inasmuch as a lotion can only be retained in the mouth for a short time, say a minute at the outside, it is essential that a mouth wash to be of any real use must be capable of acting quickly.

Miller has made many experiments to test the value of various antiseptic agents as mouth washes. He gives the highest place to perchloride of mercury and has satisfied himself that it is possible after a complete mechanical cleansing to obtain by means of a 1 in 2000 solution an almost perfect sterilisation of the mouth. Unfortunately, this agent cannot be used habitually as a mouth wash on account of its unpleasant taste and its poisonous properties. Salicylic acid (1 in 100) is capable of devitalising mouth bacteria in a quarter of a minute, but its use in this strength is contra-indicated by the risk of decalcifying the teeth. Listerine, consisting of oil of eucalyptus, boro-benzoic acid, wintergreen oil, and other substances, is a valuable antiseptic with an agreeable taste and odour. It may be used on the brush in cleaning the teeth or slightly diluted as a mouth wash. A 1 in 20 solution prevents the development of mouth bacteria in culture media, and the undiluted solution can devitalise mouth bacteria in from a quarter to half a minute. But even such a powerful remedy will accomplish but little in sterilising the mouth when there are carious teeth with cavities full of débris of food. It is very important to recognise the fact that pain is but seldom an early symptom of caries and that he who waits for pain to inform him that a tooth requires attention will find that the disease is far advanced. The only way to detect caries in an early stage is to submit to periodical examination of the teeth whether they ache or not. During pregnancy and lactation particular attention should be paid to the teeth, more especially if the buccal secretions be found to have a distinctly acid reaction. Special attention should be paid to the teeth during childhood. Only too often a mother thinks that baby teeth are not worth looking after as they are only meant to last a short time; it will be time enough, she thinks, to take the child to the dentist when the second teeth want stopping or pulling out. The notion is very prevalent and is, I am sure, productive of much harm. The preservation of the temporary teeth until the period at which they should be naturally shed is most important, for they have a function to perform. If allowed to decay they give rise to suffering detrimental to health and in delicate children may lead to disease of the cervical glands and other serious troubles. Oral cleanliness cannot be practised too early. From the first until the child is old enough to do it for itself the teeth should be cleansed at least once a day; a wet cloth may suffice at first, but as soon as the temporary set is complete a soft tooth-brush should be used every day after the last evening meal, so as to remove débris which may have accumulated during the day. The child's teeth should be periodically inspected so that small carious spots may be treated before they have extended sufficiently deeply to make the necessary manipulation painful. Ruthless extraction of carious milk-teeth is strongly to be condemned, for thereby a child's nutrition may be seriously impaired and the due eruption of the permanent set interfered with, leading to overcrowding and other irregularities. On the other hand, carious temporary teeth must not be allowed to remain in the mouth when they are setting up irritation in the lymphatic glands or causing other serious troubles. Perhaps the surgeon too often errs on the side of extraction, whilst the dentist may at times be too conservative. In doubtful cases an interchange of opinion might result in the wisest course being determined upon. The first molars are the most delicate of the permanent teeth and often begin to decay as soon as they erupt. Appearing early, they are often mistaken by parents for temporary teeth and allowed to fall into hopeless decay.

THE CARE OF THE MOUTH IN FEBRILE CONDITIONS.

In fevers and other diseases in which the patient is either too feeble or too listless to clean his mouth for himself this should be done by the nurse. The physician makes it a rule to inspect the tongue of a febrile patient and to note the occurrence of sordes on the teeth when the typhoid state is setting in; but I fancy he looks upon these conditions more often as symptoms than as indications for treatment. Thorough cleansing of the mouth in such cases not only greatly increases the comfort of the patient but by improving the appetite may enable him to take more nourishment and thereby enhance his prospect of recovery. The cleansing of the teeth during convalescence from acute diseases is too often neglected. If the foul state of the mouth be remedied the desire for food will be at once increased. Patients seldom think of asking for this relief when too ill to attend to their own mouths. In patients convalescing from diphtheria antiseptic gargles and mouth washes should be invariably employed. Having already pointed out the intimate connexion between carious teeth and dyspepsia I need only remind the physician that a careful inspection of the mouth should be a matter of routine in examining a case of digestive disorder and that dental insufficiency or abnormal oral sepsis should receive adequate attention.

ANTISEPTICS IN MOUTH OPERATIONS.

I would ask the general surgeon whether he is in the habit of doing his utmost to sterilise the mouth before performing such an operation as removal of the tongue or jaw. On looking into the text-books most generally read by students I find that the subject is either not mentioned at all or else passed over in a few words. Yet it is a matter of great importance. Before performing such an operation all teeth which are much decayed or very loose, as well as all stumps, should be removed and if time and occasion permit the services of a dentist should be requisitioned to remove all tartar and to stop teeth which are slightly decayed but not bad enough to require extraction. For as many days as possible before the operation the patient should use a soft tooth-brush, if the nature of the disease allows it, and should frequently rinse the mouth with a suitable antiseptic. Perchloride of mercury is by far the most potent drug for this purpose; a not unpleasant mouth wash may be made by dissolving a grain of perchloride of mercury in an ounce of eau de Cologne or tincture of lemons and adding a teaspoonful of this solution to a wineglassful of water. If care be taken to avoid swallowing any of the mouth wash, and especially if the mouth be rinsed with warm water after it has been used, no fear of poisonous effects need be entertained. When the patient is under the anæsthetic the mouth may be thoroughly mopped over with a cotton sponge wrung out of a 1 in 2000 perchloride of mercury solution, care being taken

that no excess runs down the throat. Lastly, I would strongly urge that all those who use instruments of any sort within the mouth should make it an invariable rule to sterilise them both before and after use.

ILLUSTRATIVE CASES OF GUNSHOT WOUNDS OF THE SKULL AND BRAIN.[1]

BY L. G. IRVINE, M.A., M.D., B.SC. EDIN.,
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THE following notes are based on the observation of 30 cases of gunshot wounds of the skull and brain which came under my own care or that of several of my colleagues in the military hospitals in South Africa during the war and on which I made direct personal observations. My thanks are due to those of my colleagues who kindly allowed me to make use of their cases for this purpose.

The cases which I have chosen for description have been selected with the sole object of illustrating the various types of injury to the skull and brain caused by the Mauser or Lee-Metford bullet and I have in order to make this paper as brief as possible taken one case only of each type. I would not, however, have you as a consequence conclude that I am in any way arguing from single instances, since the material from which these cases are selected, if not very extensive, is at all events considerable and representative. Further, I have included in the series several fatal cases. I have done so because in them post-mortem examination allowed of a more exact observation. Had my object been merely to describe successful cases of brain surgery a very different selection might have been made.

Gunshot injuries of the skull and brain still, as formerly, remain the most fatal wounds of all and still exact their heavy toll of deaths upon the field. Injuries of this sort are naturally most common in engagements fought at close range, especially where the opposing troops are more or less under cover or are actually entrenched. I hope that in time some surgeon who has had extensive experience in the field will be able to contribute to the surgical literature of the war a study of the nature of the wounds which kill. The study would be a valuable one, for it is rarely possible to subject the dead on the battle-field to exact examination; circumstances do not usually permit of it—the wounded and not the dead claim the first attention of the surgeon. But I think one may safely say that of all those who are killed outright upon the field, in certainly the majority death is due to wounds of the skull and brain. One surgeon, who had had exceptional experience of field work, stated to me his belief that penetrating wounds of the skull and brain accounted for 60 per cent. of those killed in action. Of the remainder the majority were shot through the chest, while in a further proportion death was due to penetrating wounds of the abdomen. Only a comparatively small percentage of patients died on the field from primary external hæmorrhage. If this be so it is obvious that, of actual wounds of the skull and brain, the proportion which are immediately or rapidly fatal must be a very high one, especially when we take account of the further fact that a considerable number of those who are carried from the field alive die in the field hospitals within a few hours or days thereafter. Perhaps it is not an exaggeration to say that of all penetrating gunshot wounds of the skull seven out of 10 are immediately or rapidly fatal, while of those patients who are taken from the field alive probably not more than half actually recover. Nevertheless, the actual number of recoveries from injuries of this sort has been surprising and has certainly been very much higher during the war in South Africa than in any previous one. This has been due in part, of course, to the more systematic use of antiseptics, but also, and in a much greater degree, to the properties of the small-bore bullet itself, its small size, its high penetrative power, its smaller liability to distortion, and its general initial asepticity.

Otis records that in the American Civil War in only 14 cases of complete perforation of the skull by rifle bullets were the patients subsequently discharged as pensioners and that "the patients who did survive were quite incapacitated from earning a livelihood by physical or mental exertion."

Now, fatal as gunshot wounds of the skull and brain have been during the war in South Africa, there is no doubt that a considerable number of patients (perhaps 15 per cent.) have survived these injuries. Almost every military surgeon must have seen several. I myself have made observations on at least 12 cases in which recovery took place after complete perforation of the cranial cavity. It is interesting therefore to inquire in what class of cases this result has been attained.

GUNSHOT INJURIES AT CLOSE RANGE.

The factors determining the nature and gravity of gunshot injuries of the skull and brain are mainly two: (1) the range at which the wound is inflicted; and (2) the region of the skull and brain involved, gunshot fractures of the base being of course much more grave than fractures of the vault. Each of these factors has its importance. The first two cases which I shall cite are examples of gunshot wounds of the skull at a very close range. Cases of this sort do not often occur in action; of the instances which I shall cite one was a case of suicide and the other of accidental death.

CASE 1.—This case was ghastly enough. An artilleryman prompted to suicide by drink and the monotony of the war, shot himself through the head with his carbine. The muzzle of the carbine—the ordinary service weapon with a 303 bullet—was against, or in very close proximity to, his head and therefore the direct effect of the explosion of the cordite was superadded to the effect of the bullet. Practically the whole of the vault of the skull was broken up into six or seven large loose fragments, roughly held together by the scalp, and the scalp itself was ripped completely across from the entrance wound in the right anterior temporal region to the exit wound in the left parietal area. From the exit wound a considerable area of bone had been carried out. The vault, indeed, was literally "blown to pieces," although the base of the skull, beyond some fissuring, was practically intact. The brain was utterly destroyed.

CASE 2.—In contrast with this was a second case, that of a girl who was accidentally killed by the bullet from a Lee-Metford rifle, discharged at a distance of three paces. The difference was very striking, the injuries in this case being much less extreme than one might have expected. The following notes of the post-mortem examination were furnished to me by Dr. R. P. Mackenzie, district surgeon, Johannesburg. "The entrance wound in the right malar bone showed no sign of fissuring, the bullet having drilled a clean small hole. The skin showed no sign of singeing. The exit wound in the occipital bone, a little to the right of the protuberance, was larger, freely admitting the forefinger, and there was a zone of stellate fissuring round this, but this fissuring did not run far into the vault and there were no loose fragments. Some bone débris was found in the track of the bullet through the brain, which was rather more than an inch in diameter. The scalp wounds corresponded in size to those in the bone. Death, of course, was instantaneous." It is obvious that here, although the local injury was great, the general integrity of the skull and the scalp was preserved.

These two cases, it seems to me, are useful as standards and are of value medico-legally. In Case 1 the weapon was discharged in contact with the head and in Case 2 at the short distance of three paces. The size of the bullet and the explosive charge were absolutely alike, the weapons being very nearly identical. The striking difference between the extreme degree of destruction manifested in the one and the comparatively localised character of the injuries in the other must therefore have been due to the fact that while in the first the direct explosive effect of the cordite was superadded to the mechanical effect of the bullet in the second the effect of the bullet alone was present.

There has been a good deal of loose talk during the war of heads that have been blown to pieces and of explosive bullets and the like. Hence I think that these cases form a useful basis for discussion. I do not believe that the Mauser or Lee-Metford bullet by itself, even at very close range, will "blow the top of the head off." At the same time I grant that the injury may be greater than in the case of the girl which I have cited. In that case the base and vault were both involved. In wounds of the vault alone the fissuring may be much greater and may connect the apertures of entrance and exit since the wounds of entrance and exit are

[1] A paper read before the Transvaal Medical Society.

here closer together and the bullet track subtends a continuous arc of bone. The nearer they are together the greater the likelihood of fissuring extending between them. Fissuring, of course, is almost always greater round the exit wound. I show a specimen of this type (Fig. 1) which usefully supplements Case 2. The injury was certainly inflicted at a greater range, but it seems to me probably to exemplify what must be nearly the extreme degree of injury to the skull produced by a Mauser or a Lee-Metford bullet. The subject of it lived for 12 days.

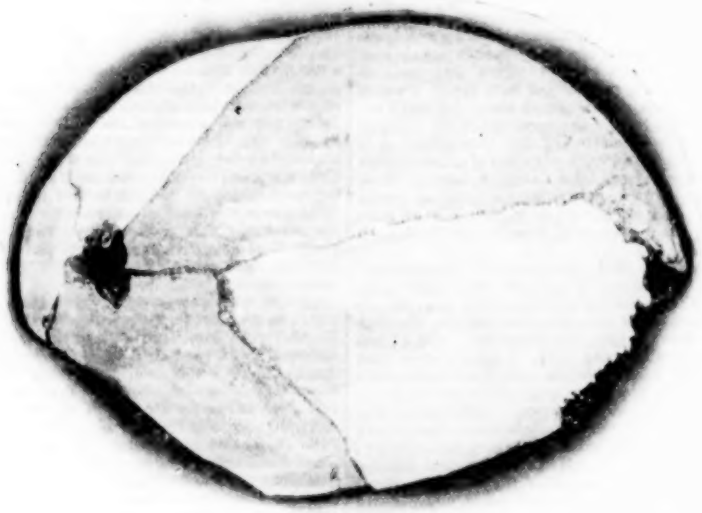
Such injuries show, in short, the typical so-called "explosive effects" caused by the solid small-bore bullet at close range, with the characters of small entrance and large exit wounds and great destruction of the soft tissues. Similar and even more exaggerated effects are shown in close-range gunshot wounds of the shafts of the long bones, which have during the war been frequently, and in many cases erroneously, attributed to the use of "expanding" bullets. I have seen in the back of the thigh an exit wound of three by four inches produced in a gunshot fracture of the femur by a solid Lee-Metford bullet at a range of 50 yards where there was no question at all of the use of an "expanding" bullet. Not only so, but it is certain also that the normal Mauser or Lee-Metford bullet will, at a close range, itself become distorted on impact with such a bone as the femur, tibia, or humerus, and so become in effect an expanding bullet. The bones of the skull, however, are not sufficiently resistant to produce this distortion in a normal bullet. My belief therefore is that where the direct explosive effect of the cordite or melinite is absent the effect of the Lee-Metford or Mauser bullet, even at ranges of from five to 50 yards, is not greater than in the case of the girl which I have described or of the specimen which I have shown. The local destruction is great and fissuring may be extensive but the general structural integrity of scalp and cranium is preserved. The head is not "blown to bits." Consequently, where effects greater than those which I have indicated are present they must, I think, be attributed to the use of bullets of a larger calibre than the Lee-Metford or Mauser, or of bullets of an illegitimate character, such as the Jeffrey's sporting or the soft-nosed bullet, which have undoubtedly been used in a certain proportion of cases during the war. In many instances, however, it must be difficult, if not impossible, to draw the line. The main differentiating points about such "expanding" bullets are their lower penetrative power and greater liability to distortion. Range for range, therefore, one would certainly expect the injuries produced by them to be the more destructive, but that the normal small-bore bullet at very close ranges produces injuries of an "explosive" type is quite undoubted, and, on the other hand, as I shall show later, an "expanding" bullet may penetrate the skull without expanding.

GUNSHOT INJURIES AT MEDIUM RANGES.

I think that I have now said enough in illustration of the characters of penetrating gunshot wounds of the head at a very close range. Whether they involve the base or the vault they are, if the cranial cavity be penetrated, uniformly fatal. Indeed, I think one may extend this statement so far as concerns gunshot fractures of the base and say that all gunshot fractures of the base involving the middle or posterior fossa or both, with penetration of the cranial cavity and injury to the base of the brain, are at all ranges either immediately or ultimately fatal. They form the commonest type of injury among those who die from wounds of the head on the field of battle; many are hit about the orbits or the root of the nose, the bullet passing out through the occiput. If there are any exceptions to this rule they must be extremely few. Where the anterior fossa alone is involved the injury is of course less serious. I need not therefore detain you by the description of any cases of this type; those which I have seen have been invariably fatal.

As the range at which the wound is inflicted increases the character of the injury becomes progressively less severe. As a consequence medium-range penetrating gunshot fractures of the vault are not necessarily fatal; a certain proportion of the patients indeed ultimately recover. A considerable number of these cases came under my own observation, and in these the wounds were almost all received at ranges of from 500 to 800 yards. Some may have been at rather shorter distances, but the estimates of range given by patients who have sustained such severe wounds of the head are clearly especially liable to error. These injuries fall into two main classes, those causing depressed or gutter fractures, and those causing complete perforation of the cranial cavity with separate entrance and exit wounds in the skull. If the line of impact of the bullet on the vault of the skull is tangential

FIG. 1.



Close-range gunshot fracture of the vault, produced by a small-bore bullet. The anterior aperture, an inch above the anterior inferior angle of the left parietal bone, has been considerably enlarged by the gouge forceps. The specimen shows especially the extensive fissuring produced, four well-marked fissures radiating from the anterior wound. One of these connects the anterior with the posterior wound; the latter is at the posterior superior angle of the left parietal bone.

a depressed or gutter fracture is produced; if, on the other hand, the line of impact is more perpendicular a complete perforation of the cranial cavity results, the entrance and exit wounds in the bone being more or less widely separated. It sometimes happens, of course, that there is penetration of the skull without complete perforation, the bullet not making its exit but remaining lodged in the cranial cavity. It is sufficient in the meantime merely to mention this fact. It may happen also that the bullet striking a glancing blow on the skull may cause symptoms of concussion or of temporary paralysis without any obvious injury to, or depression of, the bone, although it is, of course, possible that in some instances of this nature there may be fracture of the inner table without obvious depression of the outer. But of the actual gunshot fractures of the vault which we see in the military hospitals the main types are those which I have mentioned and these are quite distinct in character, symptoms, and prognosis.

DEPRESSED AND GUTTER FRACTURES.

Of depressed and gutter fractures those of the latter type, the gutter or trough fracture, are the more common. I shall therefore confine my description to them. In such cases there are two distinct wounds in the scalp with a single gutter or trough fracture through the skull. At close ranges the local destruction so produced may be very considerable; the trough may be from half an inch to an inch wide, with fissuring extending from its extremities, and splinters of bone may be driven deeply into the lacerated brain substance. I have notes of one such case at a range of under 100 yards.

FIG. 2.

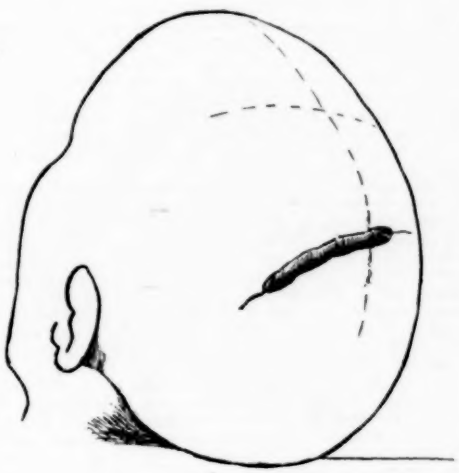
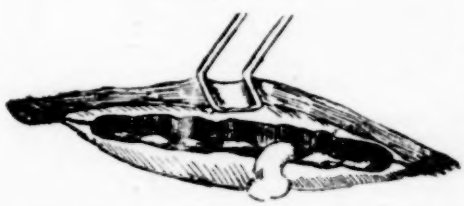


FIG. 2 A.



Gutter or trough fracture of the vault caused by a Mauser bullet at medium range. Fig. 2 shows the position and Fig. 2 A the details of the gutter or trough in the skull.

In wounds of this type, however, sustained at a medium range, the injury, in my experience, is much less severe. I show a sketch of a case of this nature (Case 3, Figs. 2 and 2 A) the appearances of which are very characteristic of such injuries at a medium range. In four cases which I saw the trough was from one-third to half an inch in width with sharp-cut edges and averaged from two and a half to three inches in length. The bone represented by it was comminuted through both the outer and inner tables, small loose fragments of both tables forming the floor of the trough and being driven sometimes underneath the sound bone towards the exit wound. Only one case showed any fissuring of the skull and in it there was merely a single fine fissure running a short distance from either end of the trough—indeed, the limitation of the injury to the bone was in these four cases quite remarkable. The dura mater was lacerated in all and to a varying extent the cerebral cortex also. Three of the four cases presented no special symptoms except that cerebration was slow in one, but in the last, the one which I have illustrated, there was marked cerebral irritability with twitching, followed by paralysis of the right arm, hand, and leg, due to laceration of the brain and hæmorrhage from the superior longitudinal sinus. All four cases were operated on by exploration and enlargement of the gutter or trough by the gouge forceps. All the patients recovered, and not only so, but all but the last seemed on dismissal in a fair way to regain their normal mental power. Too short a time, however, had elapsed for me to speak at all definitely regarding the likelihood of this improvement being progressive or permanent.

SUPERFICIAL PERFORATING FRACTURES.

Suppose, now, that the line of impact of the bullet strikes the skull more fairly. In this case two separate apertures of entrance and exit are produced in the bone in place of the single gutter or trough caused by the tangential blow. These injuries may therefore be called "perforating fractures."

Now, clinical observation shows that alike in regard to physical characters, clinical symptoms, and prognosis, these perforating fractures may be divided into two relatively distinct types which I may call the superficial and the deep perforating fractures. In the superficial perforating fracture the course of the bullet more nearly approaches the tangential; it runs close under the skull, subtending a shallow arc of bone. Such a line is shown in the sketch (Fig. 3) as

FIG. 3.

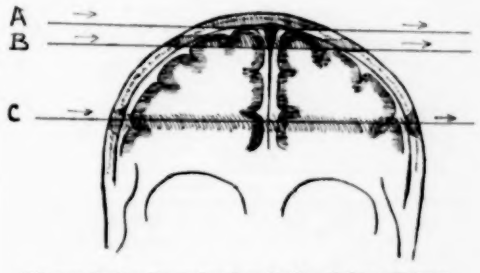


Diagram showing the modes of production of the main types of gunshot fracture of the vault. A, Gutter or trough fracture. B, Superficial perforating fracture; these, however, usually occur in the long axis of the skull. C, Deep perforating fracture.

B, A being the tangential line of the gutter fracture. Now cases of this nature at a medium range present a marked similarity of type and the injury is much more severe than that of the deep perforating fracture which I shall presently describe.

In the superficial perforating type the bullet strikes the skull obliquely, causing an oval or irregular wound of entrance and a similar or somewhat larger wound of exit which may be half an inch or more in diameter. Travelling as it does close under the skull it produces fissuring of the bone, the fissure being often single and connecting the apertures of entrance and exit. At shorter ranges, indeed, these fractures approximate to the more severe type of injury shown in Fig. 1. A lacerated track is produced in the surface of the brain, the cortex is ploughed through, and the grey matter is liable to extensive injury. Cerebral irritability is a marked symptom. Fractures of this type are naturally especially liable to occur when the line of impact is more or less antero-posterior, in the long axis of the skull,

in which direction the cranial curvature is flatter than in the transverse diameter, but they occur also in cases where the course of the bullet is more or less transverse, provided that the arc of the vault subtended by it is a small one. Most of those cases which I saw, however, were, as I have said, more or less in the long axis of the skull. The superior longitudinal sinus is specially liable to injury in wounds of this type of the vertex in the middle line and in these cases more or less complete hemiplegia is common. All the cases were subjected to operation either by trephining or by enlargement of the apertures in the skull. In one case a hernia cerebri developed after operation. I mention this merely to refer to the satisfactory local results obtained by painting the surface of the tumour with a 20 per cent. solution of formalin and shaving off the resulting crust every three or four days. So far, however, as I have seen, and taking into account the immediate prognosis only, the majority of these cases in which the injury has been inflicted at a medium range and in which the patients live to reach the stationary and general hospitals, recover; in what proportion of the total number of wounds of this type recovery ensues is a question that I cannot so definitely answer.

All of the above features are illustrated in the sketch (Fig. 4) which I show here. It was made at the time of

FIG. 4.

Superficial perforating fracture of the vault as shown at the time of operation. Note the trephine opening and the single fissure connecting the apertures of entrance and exit. The lines of the coronal and sagittal sutures are also indicated.

operation from the case of a young officer wounded at Colenso (Case 4). Note that the wound is in the long axis of the skull. Note the small oval entrance and exit wounds, the former on the vertex in the middle line and the latter in the upper frontal region one and a half inches to the right of the middle line. Note also the single fissure connecting them. In this case the superior longitudinal sinus was wounded and there were complete paralysis of the left arm and partial paralysis of the left leg and face. He was semi-conscious when operated on 36 hours after receipt of the injury and there was free venous oozing from the anterior wound and from the line of the fissure with escape of disorganised brain matter from the former. The anterior wound was enlarged and plugged with gauze and a circle of bone was then removed midway between this and the posterior wound at a point where the bleeding seemed to be most profuse. The dura mater, which was bulging and not pulsating, was opened. This wound was then also plugged. The patient made a good recovery. A month afterwards the power of the arm was almost normal and there was good recovery of the power of movement of the knee and hip but foot-drop persisted. Cerebration was fair though a little slow, but the patient could read a novel through with enjoyment. It is scarcely possible, however, that recovery will ever be complete enough to enable him to resume any active work. The case was under the care of Dr. D. W. Johnston.

DEEP PERFORATING FRACTURES.

Let us now take the type of case which I have called the "deep perforating fracture." The actual distinction between this and the previous type lies in the fact that the course of the bullet is in this case deeper and subtends a larger arc of the skull. It is indicated by the line C in Fig. 3. The injury to the bone and to the cortex of the brain is thereby much lessened. This character serves to differentiate it, both in physical and clinical features and prognosis, from the former type. Associated with this is the further fact that in these injuries the track of the bullet is usually more or less in the transverse axis of the skull, in which direction, of course, the cranial curvature is fuller and less shallow. I saw nine cases of this type and in all but one the track of the bullet crossed the middle line; in four of these, indeed, the bullet passed more or less directly transversely through both parietal bones.

Now here again the cases were all with minor variations of one general type. The bullet, striking the skull at, or nearly at, right angles, drills it and, traversing the substance of the brain more deeply than in the case of the superficial perforating fracture, drills the skull again at the point of exit. The apertures in the bone are small and, as a rule, similar. Frequently they are of the circular type shown in the specimen, taken from one of the cases in which the bullet passed almost directly transversely through both parietal bones. Note the exit wound (Figs. 5 and 5 A), a clean drill with a ring-like bevelling off of the outer table. An exactly similar condition was seen at the entrance wound, although the symmetry of this was spoilt by the trephine and I have therefore not reproduced it. It also showed a clean drill with a corresponding bevelling of the inner table. The direct injury to the bone is here really at a minimum. There is, indeed, barely space to let the bullet through. Sometimes, it is true, the apertures are larger and irregular or roughly rectangular and if this is so the exit wound is usually the larger of the two and when loose spicules of bone are removed it may have a diameter of three-quarters of an inch or more.

Another noteworthy feature is the absence of fissuring in most cases of this type. In the majority of those which I examined there was no fissuring of the bone whatever and in the instances in which it did occur it was slight, a single fine fissure only running for a short distance from the exit wound. This condition is in decided contrast to the marked fissuring which characterised the cases of superficial perforating fracture. In one of the two cases examined post mortem a minute spicule of bone was found at some depth in the brain substance, but apparently such fragments are not carried in deeply to any great extent. They lie on the dura mater or superficially in the brain substance close to the entrance wound. Laceration and disintegration of the brain substance along the direct track of the bullet are in these cases considerable—more so than one would expect from the character of the wounds in the skull. In most cases disorganised brain matter exuded from the wound in the bone and sometimes in considerable quantity. In one case the longitudinal sinus was wounded; in two cases the middle meningeal artery; in no case did these complications ultimately prejudice the result. In one case the bullet had just failed completely to perforate the skull, and was found on exploration neatly impacted in the bone at the exit wound, the anterior half of the bullet projecting from the skull. It was removed with some difficulty by the lion forceps.

The symptoms prior to operation are typically those of laceration of the brain. The classical state of mental or cerebral irritation characteristic of this condition is usually well marked and the temperature and pulse are raised unless compression is markedly present. There may be in addition localising symptoms, twitching, localised paralysis or hemiplegia, or even, in the gravest cases, general convulsions. But paralytic symptoms are perhaps less common, and certainly less extensive, in injuries of this nature than in superficial perforating fractures and the general character of the wounds is decidedly less grave. Of the nine cases eight were operated on. In two the entrance wound was alone explored, in three the exit wound, and in three both wounds. In the absence of localising symptoms pointing to the exit

wound or to some other area it is always wise first to explore the aperture of entrance in the skull, since it is from it that spicules will be carried inwards into the dura mater and the brain substance. If the condition of the patient allows of it both wounds should be explored. It is not usually necessary to trephine; loose spicules should be removed and the opening enlarged where necessary by Horsley's gouge forceps which I have found very useful. I shall only cite one case in illustration of this type of injury.

FIG. 5.

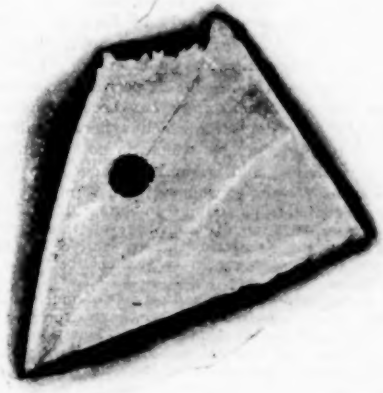
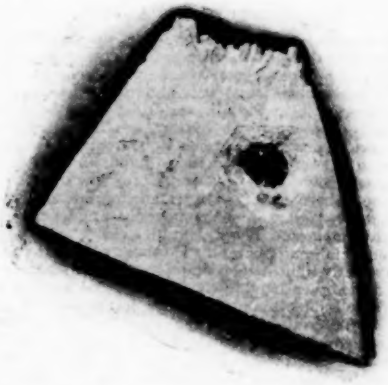


FIG. 5 A.



Medium-range deep perforating fracture of the vault by a Mauser bullet which passed almost directly transversely through both parietal bones. The aperture of exit alone is shown, but that of entrance quite corresponded. Fig. 5 is a view of the inner surface of the skull at the aperture of exit and shows a clean circular drilling of the bone with a single fine fissure running from it. The actual diameter of the aperture was less than 1/4 of an inch (5/8ths of an inch). Fig. 5 A shows the external surface, the ring-like bevelling off of the outer table being clearly seen.

CASE 5.—A private was wounded on Feb. 23rd, 1900, in the first assault on the Pieter's position, the range being rather under 500 yards. The entrance wound was just below and to the right of the external occipital protuberance and the exit wound was one and a quarter inches above and behind the left external auditory meatus. The wounds in the scalp were those of a normal Mauser bullet and were quite similar. On admission to hospital two days later he was stupid but conscious; he was excessively irritable; there was no paralysis; the pupils were dilated but reacted sluggishly; the temperature was 101° F. On the 27th the exit wound was explored; loose spicules of bone were found on the dura mater and when these were removed the resulting wound was roughly rectangular, measuring three-quarters of an inch by one and a half inches. Nearly an ounce of disorganised brain tissue and blood was exuded, there being clearly considerable intracranial pressure. The brain then pulsated. There was a single fine fissure in the skull running backward. The entrance wound was not explored. On the next day the symptoms of cerebral irritation had passed off and two days later the patient was doing well and was sensible. The temperature was normal after the operation. An interesting symptom was present in this case which was due to the injury to the left occipital lobe or its connexion with the left temporo-sphenoidal lobe—namely, amnesia verborum. Speech was slow but well coördinated, but he could not recollect the names of the simplest articles when shown to him, although when the proper names were verbally suggested he could both articulate and write them. He also had dimness of vision, especially in the left eye. Both of these symptoms gradually passed off and by the end of March the amnesia had nearly disappeared and he was then quite intelligent.

Of these nine cases of deep perforating fracture death occurred in two, both I think being due to septic encephalitis; both had been subjected to operation; seven patients recovered. Thus the immediate prognosis of the majority of these cases where the patients live to reach the stationary or general hospitals is good. It is possible, indeed, that an actual majority of all cases of medium-range deep perforating fractures of the vault recover. Indeed, one may assert with some approach to certainty that, while, as I have stated, penetrating gunshot fractures of the vault or the base at a close range are always fatal and from gunshot fractures of the base even at longer ranges recoveries must be extremely few, yet in medium-range fractures of the vault the immediate prognosis of gutter fractures is good and the prognosis of what I may call deep perforating fractures is decidedly better than that of the more superficial perforating fractures.

The ultimate prognosis is a different matter which only time can decide. It would be an interesting investigation for the proper authorities carefully to follow up the subsequent history of such cases as I have mentioned. The time at my disposal for observation was not sufficient to form a competent judgment on the matter, as those patients who recovered were invalided home, as a rule, about a month or six weeks after the receipt of the injury. Yet even within this short limit of time the progress made was in some cases surprising. I have already stated that I believe that three of the four cases of gutter fracture will apparently regain normal mental power, although in this estimate I may be unduly optimistic. Of the recoveries from superficial perforating fractures few, if any, would do so.

The six cases of recovery from deep perforating fractures which I was able to follow up were, I think, intermediate in character. In the first case, cerebration was fair but there was loss of vision in the left eye; in the second, in which the patient had had paralysis of the muscles of the left shoulder and leg, there was good recovery of power in the former and the power over the leg was steadily improving; he was intelligent and read the newspaper with interest but soon became tired. The mental condition of the patient in the third case was the same and that of the patient in the fourth case, the subject of the amnesia which I have described, was similar. So also with the two other patients, one of whom had had partial motor aphasia and paresis of the right arm. All of these observations were taken a month after the receipt of the injury. I may say broadly that all the six patients could then talk quite intelligently about their wounds and other experiences but that their power of continued mental exertion as shown in reading or conversation was soon exhausted, in some more markedly than in others. Whether any of them would completely and permanently recover it is impossible for me to say. Several at least seemed in a fair way to do so. I trust, however, that cases of this nature will be carefully followed up by those whose position enables them to do so and the result published.

CASES IN WHICH THE BULLET LODGED IN THE CRANIAL CAVITY.

Let me now, in conclusion, quote one case more of another type, one in which the bullet penetrated the cranial cavity and remained lodged within it. Such injuries are not

uncommon; they occur, of course, at long ranges or from ricochets. They are usually fatal but not always so. The case has an additional interest from the fact that the injury was inflicted by a soft-nosed Mauser bullet.

CASE 6.—The patient, a private, was wounded in a minor engagement near Vereeniging and on the evening of the 3third day was admitted to the military hospital at Elandsfontein. A small circular wound of entrance could be seen over the prominence of the right malar bone, below and in a line with the outer canthus. No exit wound could be found and the bullet had clearly lodged in the cranial cavity. There was complete paralysis of the right arm and leg but no paresis of the face. The pupils were equal and reacted sluggishly to light. The patient was semi-conscious, presenting signs of advancing compression. On the next morning trephining was performed over the middle of the left motor area. The dura mater bulged and did not pulsate; it was therefore incised. The brain protruded somewhat. After the escape of a considerable quantity of blood pulsation returned. Search was then made with the probe for the bullet but it was not located. The patient died on the following morning early on the fifth day after receipt of the wound.

A post-mortem examination was made to determine the course and location of the bullet. The probe could be readily passed through a channel leading from the entrance wound through the right malar bone and the body of the sphenoid bone. Crossing the middle line the bullet track entered the cranial cavity in the middle fossa. There was no gross fissuring of the base and the channel through the bone was of small diameter. The bullet had then apparently impinged against the anterior surface of the petrous portion of the left temporal bone about its middle, at which point a small portion of lead was found. It had then been deflected directly upwards towards the vertex, producing a lacerated track in the brain substance. This entered the under surface of the anterior portion of the left temporo-sphenoidal lobe, not, however, appearing on the surface of the brain till it emerged at the vertex one and a half inches from the middle line. At this point a small puncture in the dura mater showed that the bullet had impinged against the skull. It had then been again deflected backwards and downwards through the substance of the ascending frontal and parietal convolutions. It was found lying at the middle of the latter very close to the operation wound. The ascending track was about an inch in diameter at its lower end; the descending track was smaller.

This case presents several features of interest. It was caused by a soft-nosed Mauser bullet, one, that is, in which the point of the nickel sheath had been removed to the extent of a quarter of an inch, leaving the tip of the leaden core exposed and projecting. Such a bullet is of the "expanding" type, of which a good deal has been heard during the war. Nevertheless, it did not "expand," although it had drilled the malar and sphenoid bones and impinged against the dense substance of the petrous bone. The only distortion which it suffered was that the projecting leaden tip had been completely shorn off transversely at the point where the nickel sheath ended, presenting an appearance quite different from the oblique shear of a ricochet. As a consequence the penetrative power of the bullet was so reduced that it did not pass out of the cranial cavity, but being twice deflected by contact with the bone and altered in shape produced a very extensive laceration of the brain tissue which was the cause of death. Had the bullet been a normal Mauser it would at a medium range have completely perforated the cranial cavity; the injury to the bone would have been more grave but the laceration of the brain would have been less extensive. The question of exploratory operation which arises in such cases must depend for decision on the individual circumstances of each case. Should, as in this instance, localising symptoms render it probable that the bullet is lying in a situation accessible to the surgeon its removal should certainly be attempted.

Johannesberg.

NEW OPERATION THEATRES AT BRADFORD ROYAL INFIRMARY.—Two new operation theatres provided at the Bradford Royal Infirmary by the generosity of Mr. Harrison Benn of Holcombe Hall, Dawlish, South Devon, were opened on Oct. 10th by Viscount Mountgarret. The instruments and furnishings were the gift of Mr. W. H. Longbottom, of Myddleton Hall, Ilkley.

MENTAL DISSOLUTION THE RESULT OF ALCOHOL.[1]

BY ROBERT JONES, M.D., B.S. LOND., F.R.C.S. ENG.,
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WHEN, at the request of its able President and my old friend Dr. Harry Campbell, I consented to read a paper before the Society for the Study of Inebriety I felt the limitation of my experience in regard to the subject of inebriety, as ordinary cases of intemperance do not come under my care. My knowledge is derived from those in whom the vice of intemperance has become a disease, manifested by a craving over which a normal will has no control and resulting in acts which do not recognise submission to authority and which are judged to be irresponsible. The persons to whom I refer form only a small part of the multitude who indulge in strong drink, but they are by no means a small proportion of those who are admitted into asylums and who thereby sacrifice two objects so dear to self-respecting men—viz., their liberty and their legal franchise.

Many distinguished writers and persons of much authority and ability, too numerous to mention, have expressed themselves before your society upon this great question of drink, and its philosophical, medical, social, and economic aspects have been presented and discussed, but, not recently at any rate, have the effects of alcohol in relation to the production of insanity been submitted to its notice, for I have observed no such record in its proceedings of late years. If my paper fails to be of interest I trust that the President of the society may not be altogether exempt from the rebuke which in other circumstances would have been mine.

THE DISTRIBUTION OF ALCOHOL.

Of all poisons, possibly alcohol is the most universal and the most widely diffused in nature, for it is found wherever destruction of organic matter by the various agents of fermentation takes place; and it is almost impossible to avoid it. We breathe it in the air, we drink it at the bubbling spring, and even when we die we are laid in alcoholic earth. Like many other poisons it is from its stimulating properties of distinct service to mankind, and although its physiological action has given rise to much acrimonious debate the consensus of opinion among medical men in the present day is that in many instances, under the control of the reasoning and moral faculties, its use is to some extent beneficial, and therefore let those who find it so and who can strictly limit its consumption enjoy the benefit. To others, on the other hand, alcohol is a lethal weapon which works its fell effect, and therefore let those who are so affected abstain altogether from its use. It affects the weakly by reducing their energy, their vigour, their initiative, and their enterprise. It is from the indiscriminate use of alcohol by this class that disease, degeneration, crime, and brutality result, in consequence of which wise and tolerant men who have found even benefit from it in moderation have totally abstained from it and decried it in no measured terms as the most potent evil and the most active cause of sickness, disease, and death. This being so, it has been asked, "Why do men drink?" and the general answer, we are bound to confess, is, as Shadwell states, that alcohol in one form or another exhilarates, removes depression, lightens pain, and makes glad the heart. It tends to foster conviviality and good fellowship, to make life brighter and more enjoyable, and to make man pleased with himself and others.

GENERAL EFFECTS OF ALCOHOLISM.

As to the general effects of alcoholism—if the term be applied to the whole range of disorders caused through poisoning by alcoholic liquors—the toxic action may be described as either direct upon the individual or social, far-reaching, and indirect, affecting the efficiency of the community and causing injury to the national reputation through a loss of productive labour, an increase of pauperism, the spread of crime, and the retardation of all improvement. Through the direct influence of

[1] A paper read before the Society for the Study of Inebriety on July 15th, 1902.

excessive drink, which is the main theme of my remarks and to which I shall return, definite changes occur in the nervous tissues as well as in the vascular and glandular tissues, which involve premature senility, debility, and decay; a destruction of mental vigour and capacity, extinction of all moral and religious principles, an excitation of all the worst passions, and an indescribable degradation. It is owing to these profound but preventable changes that moralists, philanthropists, and others have agitated for reform. They are staggered by the fact that although our own country has progressed and is in advance of others in regard to religion, the arts, science, and all that tends to liberty and makes for the freedom we call civilisation, it is now consuming at the present time more alcohol in proportion to the population than it has done in any year for the last 20 years and this in spite of increased education and improved sanitary and social conditions. But to these reformers it may be some, though small, consolation that although the English people are the freest entertainers in the world, whether on the highest or lowest scale—whether from the rich man's cellar or in the form of the "one pot more" pressed by one thriftless labourer upon another—the English people drink less per head than those of France, Denmark, Belgium, Switzerland, or the German Empire, arranged as these are in their respective gradations. The fact, however, still remains that in one year (1898) the cost of alcoholic drinks consumed in this country alone amounted to the extraordinary total of £154,480,934, or £3 16s. 10¾d. per head of the population. During this same year 31 gallons of beer per head of the population were consumed and the revenue from beer, which was then over £12,000,000, has continued to rise until in 1900 nearly £13,750 000 were received. A still more striking fact is that the death-rate from alcohol during the last 15 years has increased by 42 per cent. in men and 100 per cent. in women, having reached a total in 1900 of 91 per 1,000,000 for men and 52 for women—a mortality more numerous per 1,000,000 from alcohol in some large towns, such as Liverpool, than that due to scarlet fever and all other zymotic diseases taken together. In areas of excessive disease and mortality which are engaging the attention of the local justices and the medical officers of health it is found that public-houses are over-supplied. Surely it is time that some check should be placed upon the power of the working-man to drink his pockets empty, his health away, and his mind imbecile, and thus to become a hopeless burden upon the community. It is time that the destructive effects of alcohol upon health in the class under consideration should be pointed out with a bold hand, however painful they may be to witness and to describe. We need something more than our climate to furnish the excuse, and our convivialities to furnish the tradition, for our intemperance.

STATISTICS OF ALCOHOLISM AND INSANITY.

There are probably at the present time no less than 110,000 certified insane persons in England and Wales alone, of whom approximately about 50,000 are males and 60,000 are females. If the Lunacy Commissioners' Blue Book for England and Wales for 1901 be consulted the proportion per cent. of instances in which alcohol has been assigned as the cause of insanity to the yearly average number admitted into asylums in the five years 1895-99 inclusive is 21·8 for males and 9·5 for females—the proportion is much higher in Scotland; and after allowing for the deaths of those whose form of insanity is more immediately fatal than those caused by alcohol there are, I believe, upon the lowest computation remaining in asylums at the present time no less than 10,900 males and 5800 females who are mentally decrepit through the effects of alcohol. During the time that the London County Council's Asylum at Claybury has been opened, from 1893 to the end of 1901—a period of less than nine years—8493 patients (3776 males and 4717 females) have been admitted thereto, of whom 21·2 per cent. of the males and 12·6 of the females were definitely ascertained to owe their insanity to drink. A total of over 800 men and 594 women have been thus rendered incapable of productive work through their own acts and are being, or have been, supported and clothed at the ratepayers' expense.

The proportion of women whose insanity is ascertained to be due to drink is higher in Claybury than any of the other six asylums of London, possibly owing to the fact that it is the territorial asylum for the East-end of London, where so many women are employed in factory work. It is also a fact that in the city of Nottingham, where so many women are employed in the lace factories, twice as many women as men are received into the asylum whose insanity is due to drink. In Sunderland, on the other hand, where the prosperity of the mechanic and the miner is evidenced by high wages and abundant work—and here, also, the question of climate and occupation may have to be considered—the proportion among men reaches 38·6 per cent., as compared to 21·4 per cent. among women, which yields a combined average of 30 per cent. In marked contrast with this is the case of Cornwall, which for men and women gives the combined average of 2 per cent., and of rural Kent, which gives a combined average of 3·8 per cent. For the whole of London during the same period (1893 to 1901), 2662 men and 1677 women were received into its asylums who owed their insanity to alcoholic intemperance, and it is a painful and sad reflection that every year in London nearly 600 persons (400 males and 200 females) become inmates of pauper asylums from this cause alone. The misery and cruelty resulting to the family and the absolute degradation of the home, as the result of intemperance, are too well known to my hearers to need description or reference, quite apart from the great loss to the community through unproductiveness at a craft or trade caused by the detention of the bread-winner in an asylum. The fact pointed out by the Lunacy Commissioners, that whereas the proportion per cent. of alcoholic admissions to total admissions into asylums bears a ratio in the private class of 20·8 males and 9·4 females it is 22·7 for males and 9·7 for females among the pauper class, seems to show a greater moral weakness, which prefers immediate gratification to ultimate good, among the poorer classes, as also does its how the increased inhibition which education, the influence of public opinion, and the effects of social ostracism may exercise upon the well-to-do. There is probably less drinking in proportion among the well-to-do than among the poor who are certainly more prone to alcoholic insanity and more likely to yield to facilities for temptation. It is a fact which cannot be blinked that secret drinking is more common among women than men and more common among well-to-do women than among the poor. To a great extent the grocers' licence, now about to be curtailed, may account for this form of self-indulgence.

SPECIAL EFFECTS OF ALCOHOL.

The effects of alcohol upon man vary with the dose and the length of time during which the habit has prevailed. My experience deals in the main with its more chronic and persistent effects as seen in the insane, and the symptoms vary from general functional changes to the most aggravated forms of paralytic dementia. Acute alcoholic insanity, of which we in asylums see comparatively little, presents a rapid course and a short duration. It is the form of mental derangement due to a toxic cause which is soon eliminated, after which the organism readjusts itself and the individual recovers. Chronic alcoholism, on the other hand, implies an altered nutrition of all the tissues, particularly parenchymatous elements and epithelium such as that of the blood-vessels, causing thickening and ultimately fibroid changes. It has been stated to be one of the special causes of dementia paralytica. It certainly is one of the important elements in the strain which predisposes to this breakdown and is a most fertile source of nervous diseases.

The degeneration of the tissues—nervous and non-nervous—consequent upon altered nutrition is so general and far-reaching that the resulting symptoms are of a most protean nature. Attempts have been made to differentiate these according to the particular form of alcohol taken—such as wines, beer, spirits, liqueurs (absinthe), &c., but the distinction is less psychical than physical and the symptoms consist in the greater frequency of convulsive discharges from such as absinthe, of analgesia from wines, and of hyperalgesia from essences. The liver of the spirit-drinker is familiar, as also the gross fatty changes in beer-drinkers. These latter changes are, however, more common in the experience of hospital than of asylum physicians.

MODIFYING FACTORS.

Many different considerations present themselves in regard to symptoms. The following are instances. 1. The diathesis, idiosyncrasy, or inheritance of the individual. An inheritance of insanity or nervous disorders is found in about from 25 to 33 per cent. of all such cases admitted into asylums. A person of neurotic inheritance, as evidenced by insanity, epilepsy, or other neuroses in the ancestors, is predisposed

to the incidence of delirium, small doses of alcohol giving rise to marked mental instability and other functional disturbances; in others the nervous system almost entirely escapes and the stress is felt upon the liver, kidneys, or other organs. 2. Sex appears to have a marked influence, for although alcoholic indulgence is most common among men, women recidivists are more common and women are less curable. 3. Elimination is a personal factor dependent upon the activity of the various excretory organs, such as the skin, kidneys, lungs, &c., in any particular individual. 4. Exercise appears also to influence the symptoms, as life in the open air favours tolerance. Both men and women of sedentary habits suffer in comparison to the more active and the more frequent incidence of peripheral neuritis in women is probably due to their indoor life. 5. Age is a modifying factor. The period of greatest incidence to the pernicious effects of alcohol corresponds closely with that period upon which falls the greatest mental strain. Males between 25 and 30 years of age and those between 35 and 40 years appear (according to Bevan Lewis) to be more susceptible to alcohol than those of any other age. The former is a period peculiarly characterised by intellectual advance and one during which the habits tend to become independent and fixed; the other is an epoch during which the struggle for existence makes itself felt in fullest force and it is also an age during which, as Lewis points out, the feebler and indifferent organisms often feel the want of artificial stimulus, to the use of which they often succumb. It is important in the interpretation of observed facts to note the modifying factors above stated; still, it may be said that alcohol acts preferentially upon the brain. It is also noteworthy that some time after alcohol has ceased to be taken, even after some months, its mental effects may vividly appear.

SYMPTOMS OF ALCOHOLIC INSANITY.

The symptoms of alcoholic insanity may best and most conveniently be classified according to the nervous or other territory invaded and they may be divided into sensory, motor, and intellectual, the functional changes arranging themselves in the order shown by Hughlings Jackson to be inverse of their evolution, the last developed and the most highly evolutionised being the first to be dissolved. Mentally the higher states of consciousness, such as discrimination, judgment, and association, are generally the first to be impaired in alcoholism. By the loss of inhibition and control caused through the destruction of the higher level the activities of the lower rise into consciousness and become prominent if not obtrusive. Impairment of association is evidenced by the retarded reaction to sensory, visual, and auditory stimuli. An interesting table has been prepared by the Professor of Experimental Psychology in King's College (Dr. W. G. Smith) in the laboratory at Claybury Asylum under the direction of Dr. F. W. Mott, showing the comparative results of reaction in normal cases (members of the staff) and those whose insanity was due to alcholism.

Table showing the Oral Reproduction of Auditory Impressions, being a Test of the Memory in Normal and Alcoholic Mental Cases.

Normal and pathological percentages.

			IV.	V.	VI.	VII.	VIII.	IX.	X.
Normal group (9 persons).	(a)	Rightly placed.	97·8	93·4	83·7	73·5	65·3	49·9	47·1*
	(b)	Wrongly placed.	0·3	0·4	2·0	3·4	6·3	10·6	11·2†
	(c)	Omitted.	1·3	3·0	7·7	11·9	18·8	26·1	30·7‡
Alcoholic group (5 persons, 3 male, 2 female).	(a)	Rightly placed.	91·3	82·2	66·5	56·5	40·8	28·6	27·0
	(b)	Wrongly placed.	0·3	2·4	4·8	8·0	12·9	17·1	14·4
	(c)	Omitted.	6·3	8·4	18·5	25·4	37·8	47·3	49·0

* Letters reproduced quite correctly.
† Letters reproduced from presented series in quite wrong order.
‡ Letters omitted from the presented series.

A series of experiments involving the calling out by the experimenter of a number of letters from 4 to 10. Each vertical series under Roman numerals shows the number of letters presented in each set of experiments and the percentage results. The letters were spoken by the experimenter at an even rate determined by the metronome beating 108 per minute.

Apperception, whereby experience of the past is called up and compared with the present, is affected, so that a condition which has been termed "paramnesia" results—a state of mind in which the patient is oblivious to his present environment but picks up circumstances from his recent past and discusses them in the light of his present environment. This, which is one of the most pathognomonic signs of chronic alcoholism, will be further referred to. The obliviousness is due probably to an impairment of that special quality of nervous matter, that power of receiving and fixing impressions, that plasticity whereby memory or retentiveness becomes possible. The condition termed "paramnesia"—an inability to orientate, to remember place or time—is exemplified by the inability which such patients have of concentrating their attention and thoughts upon passing events. They wander mentally and they believe themselves to have made imaginary journeys, to have ridden in omnibuses and cabs, to have travelled in trains, to have visited their neighbours, or to have been engaged at work when, as a matter of fact, they have been bedridden the whole time. Owing to an increased cerebral erethism there is a busy delirious restlessness and yet from the want of discrimination and the failure of association there is a loss of that power of "focussing" in the brain and patients will greet as an old acquaintance a person whom they have never before met. They imagine others in the ward to be their relatives and there is marked mental confusion which they themselves fail to appreciate. All this is in accordance with the doctrine already quoted that delusions have for their subject some very recent avocation, interest, or association, because the last evolved structure of the cortex is the first to be affected in dissolution, hence the bringing up and reference to events in the recent past and the attempts to fit them to the present. Owing to the prominence of what have been described as lower level functions in consequence of dissolution of the higher inhibitory level, irritability of temper, garrulity, and licence become apparent. A change in the moral character and conduct of the individual may result and he may offend against public decency and the whole moral and intellectual nature may become blunted and the will enfeebled. Restless, purposeless, even violent sensori-motor disturbances occur, the sensory disturbances generally arranging themselves bilaterally, and advancing from the periphery to the centre. In the skin the sensory disturbances take the form of perversion, an exaggeration or a diminution of the normal sensation. On the motor side tremor is a marked phenomenon and ends not infrequently in distinct epileptiform seizures. These sensori-motor disturbances form the groundwork of various hallucinations and delusions. I have several times sent out alcoholic patients recovered who were received into the asylum as epileptics in consequence of alcohol. During their detention, when alcohol was compulsorily withdrawn and unobtainable, they have lost their fits but have relapsed after leaving the asylum upon resuming alcohol and in consequence they have had to be readmitted. The discharge of sensori-motor centres in extreme cases of chronic alcoholism may be followed by great exhaustion indicated by paralysis on the motor side and by reduction or loss of consciousness amounting to coma on the mental side. Upon the withdrawal of the accustomed stimulant in less pronounced cases of drink the feeling of exhaustion may become so acute a discomfort that a special and urgent want is felt throughout the whole organism. This amounts to a veritable craving—a condition denied by some writers—and the victim of indulgence is absolutely unable to make any exertion until the craving has been appeased by providing further stimulant. That this craving exists is the experience of all those who have seen a large number of alcoholic cases. It is so overpowering that ordinary volition is absolutely impotent to resist it, and it is regardless of all altruism and takes no heed of the warning or the appeal of parent, husband, wife, or offspring. Jennings of Paris describes this craving in cases of morphia, and he points out a peculiar "*tableau*" or flattening of the pulse, due to a want of tone which disappeared when the patient was assuaged with another dose of morphia. I append herewith a sphygmographic tracing of a pulse taken by Dr. Bolton and myself in a case of alcoholic dementia with peripheral neuritis a few days after the deprivation of alcohol (Fig. 1), and one which shows the effect upon the pulse when the craving had been satisfied by its administration (Fig. 2), indicating, so far as can be ascertained, a definite physical basis for the craving.

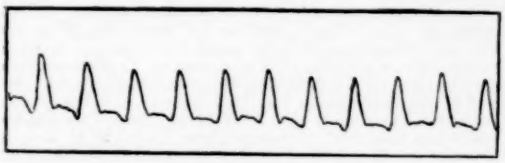
As to the nature of alcoholic affections, their impulsiveness is notable, and whether mental or sensori-motor they are of an essentially spasmodic or convulsive character. They are sudden and violent, their mania is often destructive, brutal,

and irrepressible, and is often attended with terror—a condition which has been described as panophobia. Patients may turn against others or against themselves and they are generally dangerous and aggressive. The great tendency in alcoholic mental affections is to experience hallucinations, not only of sight and of hearing, but also of the visceral and systemic organs. In the latter they imagine that their hearts are dragged out, their lungs are injected with mercury and corrosives, or their stomach is full of serpents, batteries, babies, or cricket balls. Their food is drugged,

FIG. 1.

Alcoholic neuritis. May 19th, 1902, 3.15 P.M.

FIG. 2.



Same patient 15 minutes later, after half an ounce of brandy.

filthy refuse is thrown over them at night, devils, electrical machines, and mysterious agencies play upon them, their enemies read their thoughts, and their best friends curse and hate them. Occasionally delusions of grandeur and exaltation are experienced, but these delusions fail in the benevolence of the general paralytic and unlike the delusions of general paralysis are not altruistic; their delusions are also more fixed and the tendency throughout is to be suspicious and distrustful and the victim of malignant fear and persecution. It is not improbable that the patient feels the increased specific resistance of his nervous tissues and in consequence develops a feeling of distrust against his environment.

The forms of insanity apart from the acute disturbances (mostly functional) which result from alcohol are (1) amnesic, (2) delusional, and (3) chronic varieties which end in dementia. They need not be considered within the scope of this paper.

PATHOLOGY OF CHRONIC ALCOHOLISM.

As to the morbid changes in alcoholism, I have been favoured by Dr. Mott with microscopic specimens characteristic of the lesions in the higher nerve centres and these serve also to show the difference between alcoholic insanity and general paralysis. The naked-eye appearance of the cerebral convolutions in both forms exhibits œdema with more or less wasting, but there are no granulations of the ependyma in alcoholic insanity. In long-protracted cases of the latter there may, as in cases of general paralysis, be signs of chronic meningo-encephalitis, the pia-arachnoid membranes being thickened, opalescent, or opaque, and containing microscopically numerous young connective tissue cells. In both diseases the vessels are dilated and the peri-vascular spaces distended, but in cases of general paralysis these spaces are most often crowded with pavement-like epithelial cells. There may be small hæmorrhages scattered through the cortex and these are not uncommon in cases of acute alcoholism, being due to venous engorgement with cardiac failure. Recent red softening is also not uncommon in patches. They are probably the causes of the twitching, tremors, paralysis, or anæsthesia observed. In the grey and white matter there is an excess of neuroglia cells, and the larger pyramids are shown to exhibit chromatolysis, the Nissl granules having disappeared completely in some of these, the cells being diffusely and uniformly stained and, what is a further characteristic, their processes lost. The nucleus is swollen and the nucleolus is eccentrically placed within the nucleus as the latter is within the cell. The outline of the cell is roundish and the cells are swollen and turgid; irregular leucocytes are also seen adhering to them and the pericellular spaces are dilated. The medium-sized pyramids present slighter chromatolysis, the smaller pyramids are swollen, and the nucleus is eccentric. The molecular layer in the specimens shows increased neuroglia cells with large nuclei. Marchi staining shows degenerate fibres beneath the large pyramids and Marchi-Pal staining shows a diminution in the number of the superficial tangential fibres. The large multipolar cells of the cord are similarly affected to those in the cortical motor area, and there are markedly degenerate fibres in the posterior column. The cerebral and spinal cells are affected singly or in groups, and close to degenerated cells may be seen healthy ones unchanged, showing a peculiarly selective action upon one or a group of cells by the alcoholic poison. In other organs marked degeneration occurs, even the voluntary muscles undergoing acute fatty changes.

Now the changes above described implicate especially the neurons of the cortical area—an area which is physiologically described as psycho-motor—and the resulting impairment is, as we have seen, a paresis of the motor mechanism and a retardation of mental reaction with a tendency to explosive impulses, psychical and motorial. Taking the motor side first, there is in the alcoholic a marked motor impotence with tremor caused by irregular contraction of antagonistic muscles. If in nerve preparations an efferent nerve is etherised and a central stimulus is applied, muscular contraction is impaired or absent (Gotch). In alcoholic cases the effect of the alcohol taken may possibly be similar, an increase of the specific resistance of the nerve trunk occurring, and this together with a defective innervation of nerve centres—unless nerve-shocks are sufficiently forcible—tends to check a regular discharge which in consequence becomes interrupted and irregular and gives rise to a motor and psychical tremor. As to the forgetfulness, we have in the breaking-up and disappearance of the processes of nerve-cells an anatomical and pathological explanation. The different protoplasmic processes arborise with each other and are stated to be capable of direct contiguity (but not continuity) at one or many points, the presumed retraction of these processes during consciousness cutting off in mental health the great majority of inter-neuronic connexions and allowing nervous currents to travel with increased strength over a few fibres, rather than a diffusion of current with consequent mental confusion as presumably happens in disease over many fibres.

This suggestion of the method by which nerve currents travel has engaged the earnest attention of many physiologists—conspicuously that of Lugaro in Italy—but at best it is only an approximate hypothesis. It is certain, however, that the various neurons of association which in the tangential fibres of the cerebral cortex undergo atrophy in direct proportion to the depth of the dementia have to carry various impressions which connect the different centres in the brain; and when these neurons are affected and the processes of nerve-cells undergo degeneration and decay the mental reactions which are correlative to them also become impaired and tend to disappear.

As to the further explanation of the symptoms presented in alcoholic insanity, which may be either almost exclusively sensorial or almost exclusively intellectual, this must depend upon the implication of different cerebral territories in consequence of a selective action upon them of this poison, a selection controlled by the modifying factors which I have already referred to in different individuals: in some being restricted and limited, in others becoming widespread and far-reaching, owing to co-extensive vascular degeneration and sclerotic changes.

TREATMENT OF ALCOHOLIC INSANITY.

As to the treatment of cases of insanity due to the cause under consideration, but little need be said in regard to the withdrawal. The usual doctrine of removing the cause and the effect ceases, requires, however, in cases of alcoholism, some modification. The collapse occasionally resulting from the sudden withdrawal needs careful attention, as the

persons in whom collapse occurs after withdrawal are peculiarly liable to pneumonia which, when failing to undergo resolution, ends in rapid phthisis. Such a termination is not uncommon in those cases of insanity due to drink which do not recover within one year. In the great majority of cases—indeed it might be said with but few exceptions—the total and sudden deprivation of alcohol is beneficial, but the mental relapses occurring in drink cases render the prospect of permanent cure among this class anything but encouraging. In many permanent recovery is hopeless to expect; in the rest it is uncertain, so that the great aim of treatment should be prophylactic—and here we enter upon an aspect which concerns the broader bearings of preventive medicine. I am of opinion that persons with a hereditary history of nervous diseases such as insanity, epilepsy, or hysteria, as also those in whom there is a direct hereditary history of intemperance, are best without alcohol altogether. How to control this class in regard to drink is a matter for the reformer, the statesman, and the philanthropist who recognise its pernicious social effects, for they listen to no counsel and spurn the best intentioned advice. Personally I am a firm believer in the control exercised upon the sale of drink by restrictive legislation. I not only think, but know, that you can make not only men and women but villages and even larger communities sober by Act of Parliament; as witness the result of numerous measures tending to the limitation and to the regulation of facilities for the sale of intoxicating drinks. Measures tending to control disorder, which upon the unanimous report of the police is rampant when excessive facilities are afforded for the sale of drink, assist sobriety. Excessive facilities mean inefficient supervision and I am informed that the London County Council has decided not to grant further licences in the area of the County Council unless two others are previously extinguished. I know personally the appreciation in respectable quarters among intelligent men and among working men themselves of the Sunday Closing Act in Wales. No doubt deficient opportunities to obtain alcohol tend to foster clandestine traffic and the establishment of drinking clubs, so that increased temperance is by no means in proportion to the reduction of public-houses. The trend of public opinion, not only in temperance circles but generally among working men, is to look upon drunkenness as a vice and a disgrace and to this we must look as a great controlling factor. Publicans themselves—although in many quarters looked upon as trading upon human infirmity—exercise a respect for the law which forbids serving children or drunken persons and these factors, together with the spread of education, social usage, increased facilities for healthy physical recreation and exercise, improved schemes for the sale of food and temperance drinks through the multiplication of such places as the "A B C" shops, the opening of public libraries, and the general improved condition of life in regard to sanitation religion, and morality, all tend to sobriety and self-respect. I must also point out in regard to legislation which protects the brewer that a full exchequer and a drunken population are concomitants which will hardly be found to answer in the end, and while one chief source of revenue is encouraged the golden eggs may have cost us more than they are worth.

As to the use of inebriate homes, they afford a humanitarian method of suppressing those who abuse their freedom, and the benefits resulting from "retreats" are in direct relation to the duration of residence; the longer the period of control the more the educative advantage. Cure in these establishments is neither attempted nor obtained.

It is scarcely possible, nor would it be profitable, to discuss the many vaunted nostrums for inebriety. The advertisement of them in the lay press is equivalent to an acknowledgment of their futility.

In conclusion, although desirous of avoiding the "fallacy of extremes" in my own person, I am of opinion that the best working hypothesis for the prevention and cure of all forms of alcoholic disorders, whether mental or physical, must be that based upon the practice of total abstinence.

Claybury Asylum.

MERTHYR TYDVIL HOSPITAL.—Sir W. T. Lewis, Bart., has offered to contribute £1000 towards building a children's ward at the Merthyr Tydvil General Hospital, on condition that a similar amount is subscribed by the inhabitants of the town for the erection of a corresponding extension on the male side.

A CASE OF EXTRA-UTERINE ASSOCIATED WITH INTRA-UTERINE FŒTATION IN WHICH ABDOMINAL SECTION WAS PERFORMED.

BY JOHN PHILLIPS, M.A., M.D. CANTAB., F.R.C.P. LOND.,

OBSTETRIC PHYSICIAN TO KING'S COLLEGE HOSPITAL AND LECTURER ON PRACTICAL OBSTETRICS IN KING'S COLLEGE; SENIOR PHYSICIAN TO THE BRITISH LYING-IN HOSPITAL.

ALTHOUGH great advance has recently been made in our knowledge of the causation of extra-uterine fœtation much still remains to be elucidated. It is with this object that I have ventured to contribute the following case which appears to be of considerable rarity. Similar cases in the current literature of the subject have been analysed and the results appended.

The patient, a married woman, aged 28 years, had been twice confined but on each occasion prematurely at about the fifth or the sixth month of gestation. The last pregnancy terminated 12 months ago, the fœtus being dead and decomposed. Her catamenia were always regular and of the 31-day type and no pain or discomfort accompanied the flow, which was not excessive. Prior to her present illness she had gone for nearly six weeks without seeing anything and she considered herself pregnant. Seven weeks ago while lifting a bath she felt acute pain in the left side and hæmorrhage from the vagina set in and continued in varying degree until the date of operation. The practitioner who was first called to attend her found that several clots which had been passed had been thrown away, but he discovered the head of an eight-weeks fœtus in one of the diapers which had been used. When first seen by Dr. H. G. Ilott of Bromley on Dec. 12th, 1901, the patient was found to be pallid but well nourished and with dark hair and eyes. Her expression was pained and she referred her suffering to the left iliac fossa. A free bright red hæmorrhage was constantly going on from the vagina. On the 13th I saw her in consultation with Dr. Ilott. The abdomen was slightly distended and was tender, but no lump could be felt. The patient complained of severe pain on deep pressure in the left iliac fossa. Per vaginam much blood-stained mucus was noted as issuing from the cervix which was soft and admitted the examining finger up to the internal os uteri; the uterus was bulky and pushed over to the right by a smooth, fixed globular swelling of the size of a large fist, which occupied the left and posterior quarter of the pelvis, encroaching somewhat, however, on the middle line. This lump was well defined, with an undulating surface over which no vessels could be felt pulsating. In consistence it was soft and elastic, giving the sensation rather of a dermoid cyst or soft myoma. The uterus was not freely mobile and there was a distinct sulcus between it and the lower portion of the swelling; the sound passed posteriorly and to the right two and three-quarter inches.

Under an anæsthetic the tumour was found to be very slightly mobile and not closely attached to the uterus. The vagina was thoroughly cleansed and an aspirator was pushed through the vaginal mucous membrane into the lump. The point of the instrument evidently passed into a cavity and some dark fluid blood escaped. The abdomen was opened in the usual situation. After passing through the integuments and fascia the peritoneum came into view; it was stained a brownish-purple colour. On opening the cavity several ounces of liquid blood and some dark black clots escaped. The patient was placed in Trendelenburg's position and the following conditions were noted. The great omentum was adherent to the parietal peritoneum through the lower half of its extent and was incised when the latter was opened; on passing the hand into the pelvis an adventitious sac was found, formed above and anteriorly by the great omentum, below by Douglas's pouch and the left ovarian fossa, laterally by the rectum with appendices epiploicæ, and anteriorly and below by the uterus. Half a coffee-cupful of dark blood clots was removed and a solid smooth ovoid mole of the size of a Tangerine orange was found among them. By means of an electric light the whole of the pelvic contents were seen; both tubes and ovaries were quite normal in appearance and to touch, as also were the cæcum and appendix.

The rectum had several clots intimately attached to its surface and these were left undisturbed. No trace of a cyst wall could be made out. A glass drain-tube was inserted and the abdomen was closed by three layers of sutures.

The subsequent history of the case was uneventful. The tube was removed at the end of 48 hours, the vaginal discharge ceased in four days, and the temperature and pulse remained normal throughout. Three months later she reported herself as quite well and menstruating regularly and normally.

The extra-uterine mole was a smooth oval fleshy mass, two inches long by one and a half inches broad; in consistence it was somewhat elastic to the touch. On incising it there was no amniotic cavity present. Microscopical examination showed well-marked traces of chorionic villi, pointing to the undoubted existence of a previous gestation. The fœtal head was of the size of a small marble and showed the eyes as black spots and the eyelids beginning to form; there was a rudimentary concha on each side.

I have met with references to 28 cases of combined intra- and extra-uterine pregnancy in obstetric literature; of these, I have been able to confirm 21. Analysing these I find that two of them (H. Beach,[1] F. Argles[2]) are doubtful, and in two others the result is not stated (J. Clarke,[3] J. Pellishek[4]). The remaining 17 instances comprise both cases of advanced and early pregnancy. In the latter category, to which my own belongs, but four can be included: 1. Behm[5] reports the case of a II.-para who was about eight weeks pregnant; she aborted naturally. A few days subsequently much pain came on which was referred to the right ovarian region; fever ensued and she died almost suddenly with signs of some internal rupture. A post-mortem examination showed the right Fallopian tube to be distended to the size of a pigeon's egg and ruptured; it was lined with decidual membrane, but no fœtus was discovered. 2. Landon[6] admitted a patient under his care suffering from severe abdominal pains and prostration with signs of peritonitis. She died on the fifteenth day. A necropsy showed in the uterine cavity a fœtus from 10 to 11 weeks old with its decidua; the left tube contained a small fœtus one and a half inches long with umbilical cord and chorionic villi. The wall of the tube was lacerated and the fœtus was partially between the layers of the broad ligament. 3. Mond[7] gives details of a case of a VI.-para, aged 28 years, upon whom he performed laparotomy for presumed tubal rupture. The right tube was found to contain a blood mole of the size of a hen's egg, while the left was normal. The uterus was enlarged to the size of a three months gestation; five months later a normal labour occurred and the child was born alive. 4. Walther[8] reports the case of a III.-para, aged 35 years, who when three months pregnant had much abdominal pain and uterine hæmorrhage. Before the fourth month laparotomy was performed and showed a distended left Fallopian tube, containing a tubal mole and a bicornute uterus. The tube was ligatured and removed, but on the third day after the operation abortion set in and exploration of the uterine cavity showed the placenta in the right cornu and a thickened decidua in the left.

Presumably the case described by the author was one of twins; the large majority of the instances reported are so without doubt, the uncertain ones being those in which one of the pregnancies consists of a mole or is dead and undergoing degenerative changes (maceration and the like). Under these conditions it is impossible to calculate the age of the gestation and a surmise only can be made. The question as to whether this mole was expelled from the left tube or was primarily abdominal cannot be decided. Much evidence has been brought to bear to show that a tube after expulsion of a mole rapidly assumes its normal appearance and at the operation the left tube was certainly perfectly healthy. With regard to the preliminary aspiration, I believe this proceeding to be of great value in making a diagnosis in which a pelvic swelling is present. Provided every care and precaution against sepsis be taken its use is unattended by any risk. Operation was obviously necessary in this case. The presence of unabsorbed blood in the peritoneal cavity several weeks after the accident and the continuous uterine hæmorrhage were weighty reasons in its favour. Of the four cases of which abstracts have been given the two cases which were operated upon survived and the two which were left alone died.

In considering the cases of advanced pregnancy we have but 13 at our disposal. I have arranged them as follows:—Laparotomy and Cæsarean section, one case with one death (E. P. Sale[9]); Cæsarean section and subsequent laparotomy to remove extra-uterine gestation, one case with one death (Franklin[10]); labour at or about term and a subsequent laparotomy, four cases with two deaths (L. Brühl,[11] H. P. C. Wilson[12]) and two recoveries (A. Herzfeld,[13] von Rosthorn[14]); primary laparotomy followed by expulsion of the intra-uterine fœtus alive or macerated, two cases with one death (Galabin[15]) and one recovery (Gutzwiller[16]); labour at term, subsequent destruction of extra-uterine fœtus by stilette, one case with one recovery (Mathewson[17]); version at term, or normal labour and the extra-uterine sac left alone, two cases with two deaths (Starley,[18] J. R. Cooke[19]); labour at term and subsequent passage of macerated fœtus piecemeal by vagina or rectum, two cases and two recoveries (J. Pennefather,[20] Satterthwait[21]).

These figures show that the total mortality in such cases and by all methods of treatment is 54 per cent. (nearly). In spite of this there seems very little doubt that labour should, as a rule, be allowed to be completed and then the extra-uterine sac treated by laparotomy.

Brook-street, W.

STRANGULATED HERNIA IN A WOMAN 90 YEARS OF AGE; OPERATION; RECOVERY.

BY EDWARD F. M. NEAVE, M.B., CH.B. EDIN.

THE chief interest of this case lies in the facts (1) that the patient was within a month or so of completing her ninetieth year, and (2) the duration of the strangulation. With regard to the mortality after herniotomy Treves[1] says that "the mortality as founded upon hospital statistics in recent years is over 30 per cent. and that over 50 years of age the mortality rapidly rises with each year of age, and herniotomy is very fatal in the aged." I have not previously come across a case in which the operation was performed at such a late period of life as in the present one and I should think that a successful herniotomy at 90 years of age, whether in hospital or private practice, is somewhat rare. In this case, too, the operation was undertaken under rather unfavourable conditions in a small bedroom and the patient was not moved from her bed. The duration of the strangulation had been 52 hours. Owing to the slight symptoms present the friends would not consent to an operation being done at an earlier period. The following are the leading features of the case.

On June 19th, at mid-day, the patient while at stool was suddenly seized with a severe pain in the abdomen. She was carried to bed and hot bottles were applied to her feet. When I visited her she was lying quietly in bed and complaining of a tender swelling in the left groin. On examination I found a globular swelling of about the size of a walnut in the left groin, quite close to the pubic spine. A strangulated femoral hernia was at once diagnosed. Mr. J. Robertson saw the case with me and we both gave taxis a fair trial, but we failed to relieve the strangulation. Morphia was administered. The patient passed a restless

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[1] Journal of the Gynæcological Society of Boston, vol. v., for 1871.
[2] THE LANCET, April 29th, 1871, p. 594.
[3] Medical Times and Gazette, 1856, vol. xiii., p. 590.
[4] Oesterreichische Zeitschrift für Praktische Heilkunde, Wien, 1865, No. 27.
[5] Archiv für Gynäkologie, Band vii., 1875, S. 314.
[6] New York Medical Gazette, 1870, vol. xxiv., and quoted in Schmidt's Jahrbücher der Gesammten Medicin, 1871, Band cl., S. 53.
[7] Münchener Medicinische Wochenschrift, 1899, No. 37.
[8] Zeitschrift für Geburtshülfe und Gynäkologie, 1896, Band xxxiii., S. 389.
[9] American Journal, N.S., vol. cxxi. for 1871, p. 298.
[10] Brit. Med. Jour., 1894, vol. i., p. 1019.
[11] Archiv für Gynäkologie, Band xxx., 1887, S. 70.
[12] American Journal of Obstetrics, vol. xiii., 1880, p. 821.
[13] Wiener Klinische Wochenschrift, 1891, Jahrgang iv., No. 43.
[14] Ibid., Jahrgang iii., No. 22.
[15] Transactions of the Obstetrical Society of London, vol. xxxiii. for 1881, p. 141.
[16] Archiv für Gynäkologie, Band xliii., 1893, S. 235.
[17] Pacific Medical Journal, September, 1896.
[18] New York Medical Journal, 1873, vol. xvii., p. 299.
[19] Transactions of the Obstetrical Society of London, vol. v., 1863, p. 143.
[20] THE LANCET, June 20th, 1863, p. 688.
[21] New York Medical Journal, 1872, vol. xvi., p. 387.
[1] System of Surgery, vol. ii.

night and there were sickness and vomiting. On the 20th the abdomen was swollen and tender. An enema was given with much benefit. During the following night the patient was much worse and she vomited a good deal of bilious-looking material. On the 21st Dr. J. A. Dewar of Arbroath was called in. He concurred in our diagnosis and advised immediate operation.

With the valuable advice and assistance of Dr. Dewar I undertook the operation, Mr. Robertson administering chloroform. Under the anæsthetic taxis again failed. An incision two and a half inches long was made over the swelling. The sac was opened and was found to contain very little fluid. The bowel looked fairly healthy. The constriction was found to be at the crural ring. The tip of the little finger could not be passed into this opening. With a probe-pointed bistoury the stricture was notched and the bowel after being carefully washed with lotion was pushed back into the abdomen. The sac was dissected up, ligatured, and cut off. The wound was closed with a continuous catgut suture and a carbolic gauze dressing was applied. The operation lasted not more than 30 minutes. There were some sickness and vomiting half an hour afterwards. The pulse was 60 per minute, regular and fairly strong. The temperature was 98·6° F. Half a grain of morphia was given per rectum.

The patient made a rapid and uninterrupted recovery. On the tenth day the stitches were removed and the wound was healed. On the fifteenth day an enema was given and 20 days after the operation the patient was taking ordinary diet and was going about almost as well as ever.

Friockheim, N.B.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

NOTE ON A CASE OF PERFORATED GASTRIC ULCER; RECOVERY.

BY A. E. ROUSE, L.R.C.P. LOND., M.R.C.S. ENG.

A FEW months ago I was sent for in the early hours of the morning to see a patient who, I was told, was suffering from a bad attack of sickness and who had also brought up a good deal of blood. On arriving at the house I found a girl, aged about 20 years, in bed, in a state of profound collapse, cold and almost pulseless; the bedclothes were covered with blood and vomit, while there was also about half a pint of blood in a porringer. I obtained a history of chronic dyspepsia of some months' standing and I also elicited the fact that the patient had been vomiting off and on the entire day and that she had brought up blood twice besides that which I saw on the bed and in the porringer. On questioning as to food I found that, despite the vomiting and hæmatemesis, she had eaten some steak-pie for her supper with the result of copious hæmorrhage, acute pain, and collapse. As a matter of course I diagnosed gastric ulcer and within half an hour of seeing her started to give nutrient enemata consisting of milk, egg, and two drachms of brandy, adding the last owing to the extreme collapse and bad pulse. The above injection was repeated every three hours during the night with the exception of the brandy. I applied hot fomentations of lead and opium to the abdomen for the relief of the pain, to be renewed every two hours, and gave a hypodermic injection of morphia. On seeing the patient the next day I found, as I had expected, undoubted signs of perforation—great pain and tenderness over the abdomen, the pain being chiefly referred to the umbilicus, rigid abdominal muscles, both legs drawn up, and the typical abdominal facies. The temperature was 102° F. and the pulse was inclined to run.

Operative measures were out of the question owing to refusal on the part of the parents, so I continued the fomentations as they afforded considerable relief, and also the rectal injections, and gave a grain of opium in a pill every four hours until four pills had been taken, when I administered a pill every six hours. This treatment allayed peristalsis without producing narcotism. 48 hours after I first saw the patient the vomiting for the first time was fæcal, about one ounce being brought up. I had ordered a warm rectal wash night and morning, and now in addition every other day a warm oil enema was given. On the fourth day she vomited more fæcal matter which was extremely offensive; she felt relieved afterwards and started to improve from that time. Her convalescence was a somewhat protracted one, but she was well enough to be moved at the end of seven weeks. I put her on arsenic and iron and gave her a strict diet whilst she was away. She eventually made a perfect recovery and when I saw her six months afterwards she was strong and well, taking ordinary food and being quite free from indigestion.

Worthing.

TWO CASES OF GANGRENE OF THE EXTREMITIES.

BY JAMES GILROY, M.B., C.M. GLASG.

ON Sept. 25th, 1902, I was called to see an unmarried woman, 40 years of age, who told me that on the previous day she had been washing and before beginning the work she had asked a niece to touch a pustule on her little finger with a needle. The girl refused and the patient therefore did it herself. At the time of my visit she was in bed; the inner aspect of the little finger of her right hand was quite black, the entire hand was swollen, especially over the back, and there was erysipelatous inflammation of both the right and the left upper arm. I incised the little finger freely, bathed it in warm water in which some two-grain tablets of potassium permanganate were dissolved, and afterwards, as the pain was severe, I put on a poultice of linseed meal with a sprinkling of lead acetate. The general treatment consisted of large doses of tincture of perchloride of iron, frequent bathings, Dobson's treatment by puncture with a lancet over the back of the hand for the purpose of relieving tension, and the free use of boric acid. The little finger blackened *en masse* and there was no difficulty in cutting through the ligaments of its second joint on Oct. 3rd. The patient was moderately stimulated with wine and brandy and had soups, beef-tea, jellies, and such like. On the 5th her breathing became difficult, the expectoration had a fœtid odour, and death took place the same day. Her temperature varied between 103·6° and 101·4° F.; her pulse-rate was from 96 to 120. A series of such cases which is recorded in Cooper's "Surgical Dictionary" shows their marked tendency to terminate fatally.

Two years ago I had under my care a man, 60 years of age, who had complained for some weeks of severe pain in his left foot. The dorsum of the foot ultimately became black, whereupon I administered chloroform and made free incisions over the tendons. The subsequent treatment consisted in the antiseptic application of carbolic acid and frequent bathing with warm carbolic acid solution. The man was confined to bed for nine weeks; he lost all the toes of that foot but is now able to follow his employment. After the healing process was complete he was seen by Professor Thomas Annandale who said that the case was remarkable in some respects and showed the patient to his class in Edinburgh.

Ecclefechan.

A REMARKABLE CASE OF PNEUMOTHORAX.

BY H. C. L. MORRIS, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.

THE following case presents many points of interest and is, I think, worth recording.

On Sept. 13th a perfectly healthy man, aged 36 years, was cleaning a window, when he missed his footing and fell about 20 feet on to the grass below. He appears to have fallen on his feet and then to have bounced on to his left shoulder. He was picked up unconscious and taken into the house. When I saw him 20 minutes after the accident he had recovered consciousness and was writhing about complaining of great pain over the left chest. His breathing was rapid and his pulse was 84 and small. Pending his removal to his home he assumed the knee-elbow posture which gave him considerable relief. Shortly afterwards a detailed examination revealed traumatic emphysema over the left side, extending from the clavicle to the lower margin of the ribs. With the exception of slight grazes on the left shoulder and side of the face there was no other external sign of injury. A physical

examination of the chest disclosed the fact that the left side was very nearly immobile. The percussion note was tympanitic all over the left chest, breath sounds and vocal fremitus were absent, and a metallic echo was easily obtainable. The heart was slightly displaced inwards but the cardiac dulness was demonstrated with difficulty. The heart sounds were somewhat weak and muffled. He still complained of pain over the præcordium, but although his breathing was frequent he was not suffering from respiratory distress. The symptoms were diagnostic of a fractured rib having penetrated the lung, but neither at the time nor subsequently could I find a trace of the fracture. The first thing noticeable when I saw him on the next day was an extraordinary sound which came from the interior of his chest and was synchronous with the cardiac systole. It was something between a click and the noise made by a bursting bubble and was distinctly heard all over the room. On auscultation, in addition a loud to-and-fro churning sound was heard over the præcordium. The subcutaneous emphysema was distinctly less but no breath sounds could be heard. He had very little discomfort, his temperature was normal, and his pulse was 68 and of good volume. Indeed, during the whole course of his illness the temperature never rose above normal, neither did his pulse-rate after the first day range above 70. The clicking sound was audible to those standing by the bedside for four days and was always worst when he turned on to his left side. The subcutaneous emphysema had disappeared by the third day. On the fifth day breath sounds were faintly heard over the apex and gradually became louder each day until the fourteenth, when the lung had fully expanded. The sounds heard over the præcordium —namely, the clicking and friction sound—remained very loud until the seventh day and, then got fainter and were last heard on the tenth. I can only think that they were caused by the squeezing of bubbles of air between the pericardium and the parietal layer of the pleura. Most certainly the man had no pericarditis. A fortnight after the accident the chest presented no abnormality whatever and a week later the man returned to work perfectly well.

The case deserves notice on account of (1) the curious nature of the accident; (2) the extraordinary rapidity with which the man got well; and (3) the exocardiac sounds which I have not seen described in connexion with any other case.

Bognor.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. GEORGE'S HOSPITAL.

A CASE OF RUPTURED SPLEEN; SPLENECTOMY; RECOVERY.

(Under the care of Mr. A. MARMADUKE SHEILD.)

THE following is an excellent example of the removal of an injured spleen and it demonstrates well that if the operation be undertaken sufficiently early and no other abdominal injuries are present the prognosis is favourable. There is a striking contrast between the comparatively slight disturbance resulting from the removal of a ruptured spleen and the hitherto invariably fatal result following the excision of the spleen in leukæmia. For the notes of the case we are indebted to Mr. C. R. Keyser, surgical registrar.

The patient, a colonial trooper, aged 25 years, was thrown from his horse whilst on duty on Coronation Day, August 9th. The horse rolled on to him and then kicked him in the abdomen. He was brought into St. George's Hospital at once and on admission was collapsed and semi-conscious, sweating freely, and lying with his legs curled up. The temperature was 98° F. and the pulse was 80 and weak. On examining the abdomen marked rigidity and tenderness all over the left side were found but there was no evidence of fracture of the ribs. In the region of the spleen there was dulness on percussion over an area four inches square and the tenderness and rigidity were here specially marked. A marked symptom was intense pain, the patient groaning and shrieking in agony and pressing his hand to his left side. It was obvious that some serious internal lesion had occurred the exact nature of which was uncertain. The condition of the patient was rapidly getting worse. His left olecranon process was broken transversely and he also had a small scalp wound. About three hours after the accident Mr. Sheild opened the abdomen by an incision external to the left semilunar line and found much blood in the peritoneal cavity. The hæmorrhage was very serious, the blood welling up and flooding the entire area of operation and threatening soon to extinguish life. The spleen was ruptured across the hilum and greatly lacerated, the lower surface being quite smashed. The pedicle was clamped by feeling, not sight, and the spleen was removed. After ligaturing the pedicle and removing a quantity of fluid blood the wound was closed, a large drainage-tube being inserted. As the patient was still collapsed he was transfused with two pints of normal saline solution and one pint of the same fluid was injected into the rectum. During the evening he was very restless and a small amount of morphia was given hypodermically. Nourishment was administered for the first few days by means of nutrient enemata and on the 11th his general condition was good. The drainage-tube, which had been shortened the day before, was now removed altogether, and from this time the patient made an uninterrupted recovery. On the 19th the blood was examined by Dr. T. R. C. Whipham, medical registrar, who reported as follows:—"White corpuscles number 21,000 per cubic millimetre; polymorphonuclear, 79·5 per cent.; eosinophile, 1·5 per cent.; hyaline, 5 per cent.; lymphocytes, 10 per cent.; transitional, 2 per cent.; indeterminate, 1·5 per cent. The hæmoglobin equalled 90 per cent." On Sept. 22nd the patient was given solid food for the first time since the operation. Examination of the blood gave the following results: red corpuscles, which number 5,083,000 per cubic millimetre, show as a whole but little signs of degeneration and can fairly be called "good." On Oct. 4th the red corpuscles numbered 4,962,500 and the white corpuscles numbered 16,300 per cubic millimetre. The hæmoglobin equalled 82·5 per cent.; polymorphonuclear, 74 per cent.; eosinophile, 1·3 per cent.; hyaline, 8 per cent.; lymphocytes, 15·3 per cent.; and transitional, 1·3 per cent.

When the patient was last seen the wound was completely healed and he could walk about quite comfortably. There was no obvious enlargement of the glands or marked tenderness in the bones. The patient writes on Oct. 20th that he is putting on weight rapidly and feeling strong.

Remarks by Mr. SHEILD.—This case is related to add another to the series of successful splenectomies for injury which have been already published.[1] The case is principally of interest as showing what desperate lesions may be recovered from by prompt abdominal surgery. In some cases of rupture of this organ the tear is slight and superficial and such cases may be treated by the gauze tampon or by suture of the splenic substance. In the present case the laceration of the organ was so extreme that it was wonderful that the patient did not die from hæmorrhage. The abdomen was full of blood and the clamping of the pedicle was done entirely by feeling, it being impossible to clear the area of operation by sponging.

A number of instances of successful splenectomies for injury are given by Nussbaum and Lederhose.[2] Probably a few unpublished cases also exist in the records of our large hospitals. In cases where the symptoms of rupture of the spleen are marked probably abdominal section gives the best chance. Violent tearing pain and local swelling indicate persistent and furious bleeding and the need for speedy operation. The operator must be prepared to meet the hæmorrhage and probably in extreme laceration the placing of a large clamp on the pedicle of the organ, which can readily be felt, is the first step towards safety. Large and dangerous anomalous vessels, such as are met with in cases of splenic leukæmia and other conditions where the spleen is much enlarged, are not so frequent or perilous in removal of a spleen of normal size which may be extensively ruptured. In the present instance the vessels in the gastro-splenic omentum were torn through and gave no trouble.

In minor ruptures of the spleen the extravasation of blood

[1] THE LANCET, Feb. 22nd, 1896, p. 484; and Sept. 13th, 1902, p. 744.
[2] See article in Treves's System of Surgery, vol. ii., p. 573.

is more gradual and the surgeon may wait until the primary shock has passed away. It is in these cases that the gauze tamponade is so useful, or actual suture of splenic substance with catgut. I know of no evidence that minor ruptures of the spleen may be recovered from without operation, though I think it extremely likely. We are all familiar with cases of abdominal injuries associated with intra-peritoneal extravasations of blood which are recovered from spontaneously. In some of these huge pancreatic cysts afterwards arise, indicating that so safely placed an organ as the pancreas has actually been injured. I fear that no statistics, no rules, can be laid down as to when to operate and when not to operate in abdominal injuries without external wound. These cases must each be judged on its own merits. As a general truth it may be stated that exploration when signs of grave internal lesions are evident and persistent is becoming more and more the practice of the day in English hospitals.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Presidential Address.—Macroglossia Neuro-fibromatosa.—Diffuse Thickening of the Skull of a Child.—A Case of Polio-encephalitis Inferior.

A MEETING of this society was held on Oct. 21st, Sir J. BURDON SANDERSON, Bart., the President, being in the chair.

The PRESIDENT delivered an introductory address on New Discoveries relating to Immunity (which will be published *in extenso* in a future issue). He said that his aim would be not to attempt to offer to the society an exposition of new discoveries relating to immunity such as that which had been given a few weeks ago in Professor W. H. Welch's admirable Huxley Lecture. The task which he had set before him was the much humbler one of translating into language which would have been intelligible to the student of 20 years ago the technical language which was unavoidable in dealing with complicated experimental data. He began by sketching the progress of investigations relating to the etiology of inflammation and of tubercle during the 10 or 12 years preceding the discovery by Koch of the bacteriological method. He then passed on to the discovery by Nuttall and Buchner of the anti-infective properties of the liquor sanguinis and by Behring of antitoxins. The second part of the address was devoted to the discussion of certain prominent results of recent investigations relating either to the mode of action of the soluble products which, like the toxin of diphtheria, acted as powerfully as the microbes from which they were derived, or to the more "natural" process of infection by the penetration of living bacteria. With reference to the former the evidence of the distinctness of the toxic action from the protective reaction was chiefly dwelt on. The second form of infection, as representing the natural process as it presented itself in disease, was more fully discussed. Towards the conclusion of the address the remarkable analogy discovered and investigated by Ehrlich and Bordet respectively between the action of alien blood discs and of disease-producing bacteria was commented on. The consideration of haemolysis led on to a brief notice of the important researches now being carried on in the new serum institute at Copenhagen. Finally, the President drew attention to the recent investigations of Professor R. Muir of Glasgow, of Dr. Roger in Paris, of Dr. Malloy in America, and others as to the participation of the bone marrow, of the spleen, and of the lymphatic system in protective reaction against various diseases and recommended this subject to pathological inquirers as a fruitful field of research.

Mr. F. C. ABBOTT and Mr. S. G. SHATTOCK recorded in detail a hitherto undescribed form of Macroglossia for which the term "macroglossia neuro-fibromatosa" was suggested. The condition was met with in a female child, aged four years, who was admitted to St. Thomas's Hospital in August, 1900. She was the youngest of seven children, in whom and in the family history there were no abnormalities. The deformity of the ear was noticed at birth and the enlargement of the tongue shortly afterwards. The tongue began to protrude from the mouth at the age of one and a half years and latterly was nearly always kept protruded even in sleep. She began to talk at the usual age, but speech had been much interfered with by the size of the tongue. On admission the greatly enlarged tongue was usually protruded from the mouth but could be withdrawn within it. The increase belonged entirely to the left side, the other being stretched along the raphe, so bending the tip to the right. In addition to the general enlargement there was a fairly circumscribed tumour in the posterior part of the left half. The consistence was tough and the mucous covering was dry, thickened, and coarsely granular. This granular appearance was due to marked enlargement of the fungiform papillæ and was most noticeable posteriorly. No vesicles were present on any part of the surface. The whole left side of the face showed a vague puffy fulness which interfered with the child's expression on this side and this area was also subject to unilateral flushings when the child was excited. This fulness became more marked in the neck and formed a large swelling below the jaw from the mid-line back to the sterno-mastoid muscle. Here the swelling consisted of lumps and knotted cords plainly to be felt through the skin. The left ear was larger and thicker than its fellow and the fore part of the helix extended as a broad smooth swelling across the concha, the cavity of which it largely occupied. In speaking the words were thick and badly formed and saliva dribbled from the mouth. No sweating accompanied the unilateral flushings nor was there any overgrowth of hair on this side. Mentally the child was very bright. At the operation on Sept. 5th the anterior two-thirds of the left side of the tongue were removed by V-shaped incisions, the posterior one being designed to match the cut raphe. The diseased condition obviously extended beyond the posterior limit reached and a portion of the circumscribed growth had to be left behind. The child did well and on the 26th a second operation on the neck was undertaken. Through a long curved incision two large masses wer removed, consisting of worm-like coils of semi-transpar white cords. All the anatomical structures of the part w involved and their recognition was difficult. 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The face was in the same state of slight general fulness as when first seen and the unilateral flushings still took place. The facial paralysis had much diminished and the left eye could be shut and was closed normally during sleep. The muscles of the mouth also reacted to electrical stimulus. The ear was much the same as when last seen. No recurrence of the cords could be felt beneath the site of the operation on the neck, but similar structures could be felt around this area and extended in various directions following the nerves of the cervical plexus—viz., to the mid-line in front, to the second piece of the sternum, over the whole area of the posterior triangle and across the clavicle, and beneath the skin over the mastoid process. In no instance did these cross the mid-line of the body. The condition of the tongue formed clinically so prominent a feature in the case that Mr. Abbott and Mr. Shattock thought the name of "macroglossia neuro-fibromatosa" suitable to it, although it took no account of the other parts involved. In ordinary macroglossia, however, it was not unusual for the condition to extend beyond the limits of the tongue. Clinically the appearance of the tongue closely resembled that met with in tough fibrous macroglossia of lymphatic origin and the true condition was not diagnosed till after operation. The unusual feature of the case on examination was the cord-like masses in the neck. These resembled those met with in plexiform neuro-fibroma of other regions and might make a correct diagnosis possible. Mr. Abbott and Mr. Shattock believed the diffuse thickening of the face

and enlargement of the ear to be due to diffuse formation of soft fibrous tissue, as met with over neuro-fibroma elsewhere, and akin to the soft fibromata of Recklinghausen's disease. Another explanation, that they were of trophic origin, secondary to involvement of the sympathetic, of which the unilateral flushings gave evidence, was discussed and rejected. The facial paralysis was no doubt due to a large part of the plexiform growth in the neck having been on the facial nerve, and in their tortuous course branches even of the temporo-facial had been excised in the upper part of the incision. The nerves involved included the facial, the hypoglossal, and the motor root of the third division of the fifth nerve; the lingual and probably the auriculo-temporal branches of the third division of the fifth nerve, and possibly the first and second division were implicated; also the glosso-pharyngeal, the transverse cervical and descending supra-sternal and supra-clavicular sensory branches of the cervical plexus, with probably the ascending branches in addition. The unilateral flushings pointed to some change in the cervical sympathetic but no other evidence in support of this was obtained. The dissection of the tongue showed that all the nerves were enlarged and increased in length so as to be in serpentine or short transverse folds, with the result that in many situations a compact plexus had been produced; in the divided posterior surface the muscular substance was hardly recognisable in consequence of the universal enlargement of the nerves lying in it. Microscopic sections made through the base of the removed portion showed that the enlarged nerves constituted by far the chief part of the sectional area, the [illegible] of muscle fibre being widely separated between [illegible]he enlargement of the tongue was due solely to the [illegible] nerves, the intervening muscular and connective [illegible] compressed without trace of œdema or of [illegible]ngeiectasis The nerves were enlarged even in [illegible]fungiform papillæ. The increase was due to [illegible]n of loose connective tissue in connexion [illegible]um, and each nerve was circumscribed by [illegible] In certain of the enlarged nerves nerve-[illegible]dicating the involvement of the glosso-[illegible]dition to the lingual and hypoglossal). [illegible]n stain showed a complete absence of [illegible] the new formation. The enlarged nerve [illegible] from the neck presented similar changes, [illegible]n affected the nerves penetrating the por-[illegible]diary salivary gland removed at the same time. [illegible]and Mr. Shattock described a case of neuro-[illegible]s of the thigh in which masses of fibromatous [illegible]ere associated with some thickening of the skin and [illegible] elevation into folds—neuro-fibromatous elephantiasis or neuro-fibromatous pachydermatocele—and pointed out the essential likeness between this condition and that of the tongue. In Robert Smith's work on Neuroma (Dublin, 1849) one case was given of multiple fibroma of the nerves in which a certain number of tumours grew in connexion with the branches of the hypoglossal, but there was nothing coming within the category of macroglossia. The only case which seemed to approach the present was one referred to by Alexis Thomson in a boy, in whom Robson observed a plexiform tumour of the left side of the head and occiput, associated with left-sided macroglossia; here Mr. Abbott and Mr. Shattock thought it probable that the macroglossia was neuro-fibromatous, although it was taken to be of the common type. The only lesions with which plexiform neuro-fibroma might possibly be confused were certain intra-vascular tumours, which in rare cases occurred in the neck, though more commonly in connexion with the testicle. Not only might such intra-vascular extensions contract adhesions with the intima of the containing vessel, but conversely in the case of plexiform fibroma the lamellar sheath might evince so marked a readiness to cleave through the lymph spaces between its component lamellæ as to suggest the occupation of a vessel by a growth contained within it.—Dr. J. H. THURSFIELD narrated a case of what appeared to be a similar condition which had recently been under the care of Mr. H. T. Butlin. The patient was a child, aged three years, who was the subject of swelling of the tongue, the face, and the neck, all of which was confined to the right side. In several other respects it resembled the case recorded by Mr. Abbott and Mr. Shattock. The child was still living. The microscopical appearances of the portion of the tongue which had been removed were identical with those which had been shown on the screen. Dr. Thursfield suggested that the disease had started in the deeper tissues of the neck and had spread secondarily to the tongue.

Dr. F. W. ANDREWES showed the Skull of a male child, aged four and a half years, which presented great thickening of the entire vault and, to a lesser degree, of the jaw bones. The child was imbecile. No other bones were known to have been affected. The skull was markedly asymmetrical. The bones affected were all membrane bones—viz., in the vault, the frontal, parietal, and inter-parietal region of the occipital; and in the face the lower jaw and to a slight extent the upper jaw and malars. The temporal bone was unaffected. There was complete synostosis of all the sutures of the vault, but those of the basis cranii were natural. The thickening of the vault was sharply defined and greater over the frontal and parietal bosses than elsewhere. The greatest thickness was ½ths of an inch. The distinction between the diploë and the tables of the skull was lost. All was uniform dense cancellous bone showing a normal microscopic structure with widened Haversian canals. The nature and causation of the condition were obscure. There was no history indicating congenital syphilis nor were any evidences of syphilis or rickets found during life or post mortem. Osteitis deformans was a disease of later life. The term "hyperostosis cranii" had been used for the condition which seemed more allied to leontiasis ossea than to any other affection, though in this instance the calvaria and not the bones of the face took the chief share in the disease.—Dr. A. F. VOELCKER recalled the case of a child on whom he had made a post-mortem examination 12 or 13 years ago at the Hospital for Sick Children, Great Ormond-street. The child had been an idiot; the skull after death resembled the one exhibited. There was atrophy of one cerebral hemisphere and of the cerebellar hemisphere of the other side. The bones of the skull were very thickened and softened Other bones in the skeleton were similarly affected. There was marked beading of the ribs. There were well-marked evidences of rickets; syphilis had been considered but excluded.—Dr. W. F. ARMOUR remarked that the middle meningeal arteries had been markedly enlarged, as evidenced by the grooves in the skull.

Dr. F. E. BATTEN showed macroscopical and microscopical specimens of a case of Polio-encephalitis Inferior affecting the nucleus of the seventh nerve on the right side. The patient was a child, aged five years, who was taken ill with fever, and two days later suddenly developed right facial paralysis with difficulty in swallowing due to weakness of the right side of the palate. There was no paralysis of the limbs or ocular muscles. Vomiting was present. There was no loss of consciousness. The child died from respiratory failure three days later. The specimen showed an acute congestion most marked in the region of the seventh nucleus of the right side, with thrombosis of the finer vessels, hæmorrhage and exudation of small round cells, with complete destruction of the cells of the nucleus. The lesion could be seen both macroscopically and microscopically. In the seventh nucleus of the left side and in the sixth nucleus of either side there was but little change apart from some slight engorgement of the vessels. There were considerable peri-vascular engorgement and some exudation of round cells in the medulla in the region of the ninth, tenth, eleventh, and twelfth nuclei, rather more marked on the right side than on the left, but at no point was there the marked destruction which was present in the region of the cells of the seventh nucleus. The lesion was of vascular origin and exactly corresponded in appearance with that found in an acute anterior polio-myelitis and an acute polio-encephalitis superior. The frequency of acute anterior polio-myelitis during the month of August of the present year was alluded to and the present case was considered to be of the same nature.—Dr. J. BATTY SHAW asked whether the paralysis of the facial muscles was quite complete. The facial nerve was supposed to be composite in its origin and this case suggested that the nucleus of origin of the facial nerve was really a single one.—Dr. BATTEN, in reply, remarked that the congestive lesion was not absolutely limited to one nucleus and they could not be quite certain that there was not partial involvement of other nuclei.

HARVEIAN SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Oct. 16th, Mr. W. WATSON CHEYNE, C.B., the President, being in the chair.

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The facial paralysis had much diminished and the left eye could be shut and was closed normally during sleep. The muscles of the mouth also reacted to electrical stimulus. The ear was much the same as when last seen. No recurrence of the cords could be felt beneath the site of the operation on the neck, but similar structures could be felt around this area and extended in various directions following the nerves of the cervical plexus—viz., to the mid-line in front, to the second piece of the sternum, over the whole area of the posterior triangle and across the clavicle, and beneath the skin over the mastoid process. In no instance did these cross the mid-line of the body. The condition of the tongue formed clinically so prominent a feature in the case that Mr. Abbott and Mr. Shattock thought the name of "macroglossia neuro-fibromatosa" suitable to it, although it took no account of the other parts involved. In ordinary macroglossia, however, it was not unusual for the condition to extend beyond the limits of the tongue. Clinically the appearance of the tongue closely resembled that met with in tough fibrous macroglossia of lymphatic origin and the true condition was not diagnosed till after operation. The unusual feature of the case on examination was the cord-like masses in the neck. These resembled those met with in plexiform neuro-fibroma of other regions and might make a correct diagnosis possible. Mr. Abbott and Mr. Shattock believed the diffuse thickening of the face

and enlargement of the ear to be due to diffuse formation of soft fibrous tissue, as met with over neuro-fibroma elsewhere, and akin to the soft fibromata of Recklinghausen's disease. Another explanation, that they were of trophic origin, secondary to involvement of the sympathetic, of which the unilateral flushings gave evidence, was discussed and rejected. The facial paralysis was no doubt due to a large part of the plexiform growth in the neck having been on the facial nerve, and in their tortuous course branches even of the temporo-facial had been excised in the upper part of the incision. The nerves involved included the facial, the hypoglossal, and the motor root of the third division of the fifth nerve; the lingual and probably the auriculo-temporal branches of the third division of the fifth nerve, and possibly the first and second division were implicated; also the glosso-pharyngeal, the transverse cervical and descending supra-sternal and supra-clavicular sensory branches of the cervical plexus, with probably the ascending branches in addition. The unilateral flushings pointed to some change in the cervical sympathetic but no other evidence in support of this was obtained. The dissection of the tongue showed that all the nerves were enlarged and increased in length so as to be in serpentine or short transverse folds, with the result that in many situations a compact plexus had been produced; in the divided posterior surface the muscular substance was hardly recognisable in consequence of the universal enlargement of the nerves lying in it. Microscopic sections made through the base of the removed portion showed that the enlarged nerves constituted by far the chief part of the sectional area, the bundles of muscle fibre being widely separated between them. The enlargement of the tongue was due solely to the lesion of the nerves, the intervening muscular and connective tissues being compressed without trace of œdema or of lymph or hæmangeiectasis. The nerves were enlarged even in the conical and fungiform papillæ. The increase was due to a diffuse formation of loose connective tissue in connexion with the endoneurium, and each nerve was circumscribed by a lamellar sheath. In certain of the enlarged nerves nerve-cells occurred, indicating the involvement of the glosso-pharyngeal (in addition to the lingual and hypoglossal). Unna's acid orcein stain showed a complete absence of elastic tissue in the new formation. The enlarged nerve plexus removed from the neck presented similar changes, and the condition affected the nerves penetrating the portion of submaxillary salivary gland removed at the same time. Mr. Abbott and Mr. Shattock described a case of neuro-fibromatosis of the thigh in which masses of fibromatous nerves were associated with some thickening of the skin and its elevation into folds—neuro-fibromatous elephantiasis or neuro-fibromatous pachydermatocele—and pointed out the essential likeness between this condition and that of the tongue. In Robert Smith's work on Neuroma (Dublin, 1849) one case was given of multiple fibroma of the nerves in which a certain number of tumours grew in connexion with the branches of the hypoglossal, but there was nothing coming within the category of macroglossia. The only case which seemed to approach the present was one referred to by Alexis Thomson in a boy, in whom Robson observed a plexiform tumour of the left side of the head and occiput, associated with left-sided macroglossia; here Mr. Abbott and Mr. Shattock thought it probable that the macroglossia was neuro-fibromatous, although it was taken to be of the common type. The only lesions with which plexiform neuro-fibroma might possibly be confused were certain intra-vascular tumours, which in rare cases occurred in the neck, though more commonly in connexion with the testicle. Not only might such intra-vascular extensions contract adhesions with the intima of the containing vessel, but conversely in the case of plexiform fibroma the lamellar sheath might evince so marked a readiness to cleave through the lymph spaces between its component lamellæ as to suggest the occupation of a vessel by a growth contained within it.—Dr. J. H. THURSFIELD narrated a case of what appeared to be a similar condition which had recently been under the care of Mr. H. T. Butlin. The patient was a child, aged three years, who was the subject of swelling of the tongue, the face, and the neck, all of which was confined to the right side. In several other respects it resembled the case recorded by Mr. Abbott and Mr. Shattock. The child was still living. The microscopical appearances of the portion of the tongue which had been removed were identical with those which had been shown on the screen. Dr. Thursfield suggested that the disease had started in the deeper tissues of the neck and had spread secondarily to the tongue.

Dr. F. W. ANDREWES showed the Skull of a male child, aged four and a half years, which presented great thickening of the entire vault and, to a lesser degree, of the jaw bones. The child was imbecile. No other bones were known to have been affected. The skull was markedly asymmetrical. The bones affected were all membrane bones—viz., in the vault, the frontal, parietal, and inter-parietal region of the occipital; and in the face the lower jaw and to a slight extent the upper jaw and malars. The temporal bone was unaffected. There was complete synostosis of all the sutures of the vault, but those of the basis cranii were natural. The thickening of the vault was sharply defined and greater over the frontal and parietal bosses than elsewhere. The greatest thickness was ½ths of an inch. The distinction between the diploë and the tables of the skull was lost. All was uniform dense cancellous bone showing a normal microscopic structure with widened Haversian canals. The nature and causation of the condition were obscure. There was no history indicating congenital syphilis nor were any evidences of syphilis or rickets found during life or post mortem. Osteitis deformans was a disease of later life. The term "hyperostosis cranii" had been used for the condition which seemed more allied to leontiasis ossea than to any other affection, though in this instance the calvaria and not the bones of the face took the chief share in the disease.—Dr. A. F. VOELCKER recalled the case of a child on whom he had made a post-mortem examination 12 or 13 years ago at the Hospital for Sick Children, Great Ormond-street. The child had been an idiot; the skull after death resembled the one exhibited. There was atrophy of one cerebral hemisphere and of the cerebellar hemisphere of the other side. The bones of the skull were very thickened and softened. Other bones in the skeleton were similarly affected. There was marked beading of the ribs. There were well-marked evidences of rickets; syphilis had been considered but excluded.—Dr. W. F. ARMOUR remarked that the middle meningeal arteries had been markedly enlarged, as evidenced by the grooves in the skull.

Dr. F. E. BATTEN showed macroscopical and microscopical specimens of a case of Polio-encephalitis Inferior affecting the nucleus of the seventh nerve on the right side. The patient was a child, aged five years, who was taken ill with fever, and two days later suddenly developed right facial paralysis with difficulty in swallowing due to weakness of the right side of the palate. There was no paralysis of the limbs or ocular muscles. Vomiting was present. There was no loss of consciousness. The child died from respiratory failure three days later. The specimen showed an acute congestion most marked in the region of the seventh nucleus of the right side, with thrombosis of the finer vessels, hæmorrhage and exudation of small round cells, with complete destruction of the cells of the nucleus. The lesion could be seen both macroscopically and microscopically. In the seventh nucleus of the left side and in the sixth nucleus of either side there was but little change apart from some slight engorgement of the vessels. There were considerable peri-vascular engorgement and some exudation of round cells in the medulla in the region of the ninth, tenth, eleventh, and twelfth nuclei, rather more marked on the right side than on the left, but at no point was there the marked destruction which was present in the region of the cells of the seventh nucleus. The lesion was of vascular origin and exactly corresponded in appearance with that found in an acute anterior polio-myelitis and an acute polio-encephalitis superior. The frequency of acute anterior polio-myelitis during the month of August of the present year was alluded to and the present case was considered to be of the same nature.—Dr. J. BATTY SHAW asked whether the paralysis of the facial muscles was quite complete. The facial nerve was supposed to be composite in its origin and this case suggested that the nucleus of origin of the facial nerve was really a single one.—Dr. BATTEN, in reply, remarked that the congestive lesion was not absolutely limited to one nucleus and they could not be quite certain that there was not partial involvement of other nuclei.

HARVEIAN SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Oct. 16th, Mr. W. WATSON CHEYNE, C.B., the President, being in the chair.

Dr. A. MORISON showed a girl, aged eight years, who was admitted to the Paddington Green Children's Hospital in March with Rheumatic Arthritis and Endocarditis. Shortly after admission she developed a persistent erythematous state of the skin, spreading in ring form and affecting only the trunk. The condition was probably vaso-motor, not parasitic. In May the child was sent to a convalescent home. Whilst there an attack of rheumatic arthritis occurred, with a recrudescence both of the endocarditis and surface erythema. The child returned to the hospital with organic mitral reflux. Dr. Morison believed that the endocarditis and vaso-motor skin changes were due to the same blood-state or micro-organism, and suggested that rheumatic chorea was probably due to vaso-motor changes in the cerebral circulation similar to those visible on the skin.

Dr. MORISON also showed a case, that of a boy, to illustrate the insidious onset and progress of Endocarditis, leading to the establishment of organic valvular disease. Throughout his first attendance at the hospital with rheumatism no signs of endocarditis were discovered, but nevertheless the patient was found later to have organic mitral reflux.

Mr. RAYMOND JOHNSON brought forward the case of a boy, aged 12 years, who had recovered from Acute Suppuration in both Knee-joints. The source of the infection was uncertain, but there had been otorrhœa for two years. The pus from the joints yielded a pure cultivation of streptococcus pyogenes. The right knee, the first affected, was opened and drained, subsequent incisions being made into abscesses which extended beyond the joint. On account of the unsatisfactory progress of the case Mr. Johnson had just decided to amputate when suppuration occurred in the left knee-joint; amputation was deferred and the left joint was freely opened and drained. After a long period of irregular fever the patient recovered with free movement in the left knee-joint and also a fair amount of movement in the right joint. Anti-streptococcic serum was used in this case without apparent effect. Short drainage-tubes of large calibre were used, the joint was firmly fixed, and passive movement was commenced as soon as the suppuration ceased and even before the incisions were healed.

Dr. L. GUTHRIE showed a woman, aged 28 years, who presented the following symptoms: dilatation and inaction to light of the left pupil, paresis of the left superior rectus, partial anæsthesia of the left side of the face and neck, tremors of both hands, especially of the right, marked Romberg's symptom, and a somewhat staggering gait. There was exaggeration of the knee-jerks but no ankle clonus; the plantar reflexes were absent. In August, 1900, she had for the first time an epileptic fit lasting 12 hours but had had no fits since. For nine months afterwards she had severe headache and vomiting, usually on getting out of bed. These attacks had now ceased. The symptoms pointed to a lesion in the floor of the aqueduct of Sylvius affecting the centres of the sphincter pupillæ and of the superior rectus. The other symptoms suggested a lesion of the corpora quadrigemina, probably vascular, and due to thrombosis of the basilar vessels. About three years before the first symptom she suffered from a severe sore-throat. The soft palate now showed considerable scarring. Her present condition was probably due to the effects of syphilis.

Dr. GUTHRIE also showed a woman, aged 44 years, with Argyll-Robertson pupils, intense atrophy of the optic discs, and loss of knee-jerks, but no other signs of tabes.

Mr. E. W ROUGHTON showed a man suffering from a Fæcal Fistula in connexion with tuberculous disease of the cæcum. The fistula was of a year's duration and resulted from an exploratory operation. Although his general health improved greatly he suffered so much inconvenience from the fæcal discharge that he was compelled to seek further treatment. Mr. Roughton had effected an anastomosis between the ileum and the transverse colon by simple suture. Recovery from the operation was uninterrupted. The fistula was not yet healed but there was now no fæcal discharge.

Dr. EDDOWES showed two brothers who occupied the same bed, the younger having almost Total Alopecia of nine years' duration, the elder, aged 30 years, having three round Patches on the Scalp. The most recent patch when pressed upon showed active seborrhœa. Microscopic examination of hairs from both patients presented exactly the same kind of organisms and pointed not only to the contagious nature of the disease but showed how the hair died and how the organisms rendered the hair brittle and produced the well-known club-shaped stumps. The organism was described as occupying a position between cocci and the fungus of ringworm. It might be termed a bottle bacillus (Unna). He had no doubt about the infective nature of this particular form of alopecia.

Dr CAUTLEY, Dr. SUTHERLAND, Dr. W. J. HARRIS, the PRESIDENT, Mr. T. C. ENGLISH, and Mr. F. JAFFREY also took part in the discussion of the cases.

OPHTHALMOLOGICAL SOCIETY.

Dislocation of the Eyeball through the Palpebral Aperture; Reduction; Recovery.—Birth-palsy of the Sixth and Seventh Nerves on the Same Side.—Recovery of Perfect Vision in a Case of Family Optic Neuritis (Leber's Disease).—Dermoid Cyst of the Orbit causing Complete Dislocation of the Eyeball.

AN ordinary meeting of this society was held on Oct. 16th, Mr. W. ADAMS FROST, the Vice-President, being in the chair.

Mr. E. NETTLESHIP made a communication on behalf of Mr. H. Baldwin Clifford, describing a case of Dislocation of the Eyeball through the Palpebral Aperture as the result of a blow. The globe was replaced by careful taxis and the patient was kept for 14 days in the dark. Smoked glasses were worn for three months and at the end of that time vision was perfect.—Mr. W. M. BEAUMONT (Bath) quoted an instance of dislocation of the eyeball in a newly-born child from the pressure of forceps which was reduced after 24 hours and in which, after some chemosis and swelling, complete recovery ensued.

Mr. NETTLESHIP also described a case of Birth-palsy of the Sixth and Seventh Nerves on the same side (Right). The mother was 30 years of age and delivery was rendered difficult by brow presentation. The blades of the forceps were applied to the right mastoid region and in front of the left ear respectively. The head was conical from pressure at the pelvic brim but there were no asphyxia and no swelling or extravasation in the scalp. The child was born at term and weighed seven and a half pounds. The lids of the right eye were closed and there was an internal squint, also spasm of the hands and arms. When three days old it was noted that there was complete paralysis of the right side of the face with internal squint. The pupils reacted readily to light, though with small range of movement, and there was no swelling of the eye or proptosis. On the fifth day sensation in the fifth nerve area appeared to be equal on the two sides; the child paid no attention to noise; the centre of the fundus was well seen and a small hæmorrhage was detected below the right disc, the vessels being normal. At the end of a month the paralysis had diminished and after nine months it had disappeared. Recovery was complete, hearing being equal on the two sides, and the discs being natural. At no time was there any sign of local hæmorrhage either in the lids, the globe, or the orbit. The injury was apparently a single intracranial hæmorrhage, at the base of the petrous bone, involving the sixth and seventh nerves in the beginning of their course where they were close together. Birth-palsies were not uncommon, but the involvement of these two nerves was exceptional. Mr. Nettleship cited another case following tedious labour (the mother being 34 years of age) in which these two nerves suffered, but with separate lesions, the seventh by pressure of the forceps in the parotid region and the sixth by damage in the orbit. The eyelids, in this case, were swollen and recovery was incomplete.—Dr. C. E. BEEVOR said that the injury was evidently to the nerves and not to the nuclei, as the entire facial area was affected as well as the external rectus on the same side, without involvement of the opposite third nerve. Had the nuclei been injured recovery would not have occurred.—Mr. J. H. FISHER thought that it would require a very considerable intradural hæmorrhage to cover both the sixth and the seventh nerves and such must necessarily involve the auditory nerve. The injury to the seventh nerve was probably due to direct pressure by the forceps, the stylo-mastoid foramen being situated more laterally in the infant than in the adult. The sixth nerve might be involved in a hæmorrhage from laceration of the inferior petrosal sinus at the apex of the petrous bone. This would also account for the hæmorrhage from the retinal vein which emptied itself into the petrosal sinus by way of the cavernous sinus.

Mr. NETTLESHIP also described a case of Family Optic

Neuritis (Leber's disease) in which recovery was complete. When the patient was seen in December, 1895, the vision equalled $\frac{6}{9}$ and Jaeger 16. There was an extensive central scotoma for green in each eye. The fundus was pale and the retinal arteries were small. Two brothers had suffered similarly, one while between the age of 25 and 30 years and the other at the age of 35 years. They recovered in about two years. Mr. Nettleship also cited two other instances, two brothers being affected in each of the two families, one of each recovering. The two brothers in one family were first cousins on the mother's side to the two brothers in the other family.—Mr. ADAMS FROST, speaking of Leber's disease, referred to a woman, aged 23 years, who had been seen at St. George's Hospital suffering from the disease. A brother had been affected similarly at the same age, but both recovered.—Mr. A. W. ORMOND cited the case of two brothers who had been affected at the same age (24 years) and who had partially recovered, though one relapsed for six months.—Dr. S. JOHNSON TAYLOR (Norwich) referred to four cases reported in the Transactions of the society. He asked if any special treatment had been adopted in Mr. Nettleship's cases.—Mr. B. LAWFORD described an instance of Leber's disease in one of three brothers who had all been affected. This case recovered but relapsed subsequently. The other two brothers did not recover.

Dr. H. A. LEDIARD (Carlisle) described a case of Dermoid Cyst of the Orbit which completely displaced the eye. When the patient was 49 years of age he saw him at the Cumberland Infirmary and removed the cyst and the eye which was blind. Prominence had been noticed at the age of 19 years; when he was 29 years old he could still see but the displacement had increased, and for the last five years the eye had been blind through sloughing of the cornea and opacity of the lens. A doughy painless swelling existed at the external angle of the orbit.—Mr. R. W. DOYNE (Oxford) said that intrusion took place through development of bone.—Mr. NETTLESHIP stated that when a dermoid cyst developed in the orbit it arose at the inner and not the outer angle.—Mr. LAWFORD corroborated this statement, saying that the cyst developed at the upper part of the inner angle, very much as in the case of meningocele.—Mr. FISHER said that the bony outer wall of the orbit failed to develop when a cutaneous dermoid existed in the temporal region.—Dr. LEDIARD said that in this case the cyst developed within the orbit and that there was no perforation from without.

The following cases were shown:—

Mr. Q. SILCOCK: Detachment of the Retina probably due to new growth.

Mr. C. H. WALKER (Bristol): Embolus of the Inferior Temporal Branch of the Retinal Artery.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

The Surgery of the Huddersfield Infirmary for the last 29 Years.—Carcinoma of the Large Intestine, with Special Reference to the Operation of Colectomy.

A MEETING of this society was held on Oct. 17th, Mr. JOHN IRVING, the President, being in the chair.

The PRESIDENT gave an address on the Surgery of the Huddersfield Infirmary for the last 29 years. He said that during the time dealt with the number of beds had remained the same, there having been no addition to the infirmary since 1874 until this year, when a new wing was opened. The population of the district of which Huddersfield was the centre had increased very little during the same period, so that the difference in the work done was due to an increase in the number of cases which were submitted for surgical treatment. Compared with 1874 the number of both in-patients and out-patients had doubled, whilst casualties had decidedly diminished. The increase in the number of operations performed was striking. For the year ending June, 1874, there were only 55 operations; for the year ending June, 1902, there were 659 operations, the increase being due almost entirely to the adoption of new departures in surgery. Operations for deformities of bones, for tuberculous glands, and for post-nasal adenoids were now very numerous and out of 1201 cases there had only been one death. In 1881 the peritoneum was not once opened. Last year the operations involving the opening of the peritoneum amounted to 121. As compared with other hospitals oöphorectomy was very frequently performed. Fixation of the uterus for displacement had been performed 48 times and the results had been highly satisfactory. Amongst the number had been some cases of forward displacement, causing vesical trouble and severe dysmenorrhœa, which had been completely cured by fixing the anterior surface of the uterus to the abdominal wall. The operation suggested and advocated by Dr. D. Lowson of Hull for elevating the pelvic floor had been proved to be an efficient means of curing the troublesome symptoms arising from cystocele. Operations on the gall-bladder, the kidney, the stomach, and the intestine had steadily increased in frequency and there had been a gratifying improvement in the later results. Operations for intestinal obstruction were still far from being satisfactory, having a mortality of 71 per cent., but as compared with the results a quarter of a century ago herniotomy for strangulated hernia in recent years showed a marked lessening of the mortality, whilst during the last five years there were 58 cases of radical cure of hernia with one death. The infirmary had not shared to any great extent in the recent advances of brain surgery. In one case where respiration failed owing to abscess of the temporo-sphenoidal lobe the patient was kept alive for 14 hours by pumping air into the lungs through a tracheotomy tube by means of a Higginson's syringe. Whilst excisions of joints had become much less frequent, amputations were still more numerous than in other hospitals of the same size, many of them being due to senile gangrene in beer-drinkers. 72 per cent. of all amputations of the upper extremity were for injury. 90 per cent. of all amputations of the lower extremity were for disease. As bearing out the view that cancer was on the increase, there were three times as many cases of cancer of the breast treated by amputation during the last 10 years as there were in the 10 years at the beginning of the time dealt with; and during the last five years, of 204 patients admitted suffering from malignant disease 99 were women with cancer of the breast or the uterus. Operations for stone were only about half as frequent as they were 25 years ago. 7·3 per cent. of the patients admitted in 1874 died. Last year only 4·3 per cent. of the patients admitted died. The mortality following nine different kinds of operations now, grouping them together, compared with the mortality from the same operations a quarter of a century ago, showed a diminution of 16 per cent.

Mr. H. LITTLEWOOD read a paper based on the study of 25 cases of Carcinoma of the Colon which had occurred in his practice during the past three years. The subject was dealt with under two headings: (1) diagnosis and (2) treatment. He pointed out that an early diagnosis was often difficult but of the greatest importance, for then the most satisfactory results by operation were more likely to be obtained. He divided the growths into two classes—viz., (1) in which a very obvious tumour was present; and (2) in which the growth was only a constricting ring which it was often impossible to make out by palpation. He thought that the larger growths were very rarely found beyond the transverse colon and that there was less likelihood of symptoms of obstruction in these cases, as contraction was not usual, and the nearer the growth to the cæcum the less probability there was of obstruction by solid fæces. As regards treatment, if there was no obstruction, he strongly advocated colectomy with end-to-end union, and referred to a series of 14 cases of carcinoma of the colon, eight of which had been thus operated on, six of which had been successful and two had been fatal. In one of the fatal cases, that of a woman, aged 28 years, obstruction was present at the time of operation. In the other fatal case, that of a woman, aged 60 years, a growth in the transverse colon was found and excised after the removal of a very adherent ovarian cyst. In another fatal case (Case 9) in which the whole of the cæcum and ascending colon were removed in a man, aged 65 years, a lateral anastomosis was made after closing the divided ends of the bowel. Three cases (Cases 10, 11, and 12) had been operated on during the stage of acute obstruction. Typhlotomy was performed and later the growth was excised and end-to-end union was made. Two of these patients recovered. Two other cases (Cases 13 and 14) were described in which the operation was performed during the state of acute obstruction and a loop of the sigmoid, with the growth, was withdrawn through an opening in the left side above the iliac crest, the loop being excised a fortnight later. Both cases progressed well and the patients were still living.

The first case was operated on three years and four months ago. Out of the 14 cases there were four deaths. The positions of the growths in these 14 cases were: cæcum and ascending colon, two; hepatic flexure, two; transverse colon, two; splenic flexure, three; descending colon, one; sigmoid flexure, three; and top of rectum, one. No mechanical apparatus was employed to approximate the divided ends which were united by means of two rows of continuous sutures of catgut, interrupted at two or three points of the circumference, one row for the mucous membrane and the other row for the sero-muscular coats. Mr. Littlewood also discussed the operations of colotomy and typhlotomy in relation to cases where removal of the growth was inexpedient and he quoted cases to exemplify his views.—Mr. TREGELLES FOX, Mr. T. PRIDGIN TEALE, Mr. R. LAWFORD KNAGGS, Mr. B. G. A. MOYNIHAN, and the PRESIDENT took part in the discussion and Mr. LITTLEWOOD replied.

The following cases, pathological specimens, &c., were exhibited:—

Dr. T. CHURTON: (1) Four cases of Meningo-encephalitis treated by Sozo-iodol of Mercury and Repeated Blisters; (2) a Peculiar Urinary Deposit; and (3) a case of Splenic Anæmia in a Child.

Mr. LITTLEWOOD: (1) Some Cases of Colectomy; (2) two specimens of Perforated Gastric Ulcer successfully operated on (in one case the operation was performed about 12 hours after perforation and in the other about 16 hours after); and (3) a Uterus with Multiple Fibroids removed by Abdominal Hysterectomy.

Dr. A. G. BARRS: (1) A Gall-stone discharged through the Abdominal Wall; and (2) a Case of Fœtid Expectoration with Pulmonary Arthropathy.

Mr. MOYNIHAN: (1) A Gall-bladder removed for Columnar-celled Carcinoma; (2) Gangrene of the Gall-bladder; (3) a specimen of Membranous Cholecystitis (cystectomy, 368 gall-stones removed); (4) a specimen of Chronic Cholecystitis (cystectomy); and (5) a specimen from a case of Cholecystectomy and Partial Hepatectomy (398 stones removed).

Dr. E. F. TREVELYAN: (1) A case of Apparently Permanent Radial Paralysis coming on during military service in South Africa; and (2) a specimen of Subglottic Tuberculous Laryngitis which simulated double abductor paralysis of the larynx (numerous tubercle bacilli were seen in the sections prepared from it).

Dr. A. L. WHITEHEAD: Microscopical specimens of Cyst of the Iris.

Dr. J. B. HELLIER: (1) Professor Bossi's Rapid Uterine Dilator for use at full term; and (2) the following specimens removed by abdominal section: (*a*) Bi-lateral Papillomatous Ovarian Cyst; (*b*) Bilateral Ovarian Abscess; and (*c*) Myomatous Uterus with Pyosalpinx.

Dr. C. OLDFIELD: A specimen of Prostatic Growth removed by a suprapubic operation from a patient, aged 78 years.

Dr. T. WARDROP GRIFFITH: Some specimens of Heart Disease.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—The first meeting for the session of this society was held on Oct. 3rd, Dr. W. G. Dun, the President, being in the chair.—Dr. John Macintyre gave a demonstration of Recent Electro-therapeutic and other Methods of Treatment of Lupus, Rodent Ulcer, and Epithelioma. He began his demonstration (which was a continuation of the one given to the society last year) by explaining the theories and principles underlying treatment by means of light—Roentgen rays, high potential and high frequency currents. He described and showed many of the newest forms of apparatus and improvements which had been brought out during the year, also special sets of electrodes of his own design for affections of the nose, throat, and other cavities. Dr. Macintyre next entered into the consideration of the reasons for selecting any one of these forces in preference to the others, because similar results might be obtained by more than one of them in the same class of affections. Passing to the consideration of the clinical results, he referred to a number of cases under his care of lupus which had not improved under other methods of treatment and which had been successfully dealt with by one or other of the newer methods. As instances of these he referred particularly to one case of lupus of the nose, throat, and face of 46 years' duration which had yielded to high potential currents and x rays, and also to another case in the same region in which much benefit had already been got after 30 years' illness. He next dealt with the question of rodent ulcer, which he thought in the present position of research ought to be separated in classifying results from genuine cases of epithelioma, because clinically and pathologically, although sometimes regarded as carcinoma, it differed so much from what was usually understood by the term "malignant disease" that they could easily classify the cases in a group by themselves. Rodent ulcer was often meant when the writer described it as superficial carcinoma, superficial epithelioma, &c. In most of his cases benefit was obtained and probably the best result he had to record was the first case of rodent ulcer treated by him now nearly three and a half years ago. In this case the patient had been three times previously operated upon surgically with rapid recurrence. On the other hand, he mentioned one case of rodent ulcer on the side of the nose which had invaded the superior maxillary bone and in which none of the methods above mentioned after a fair trial of each had done any good. Passing to the question of true epitheliomatous growths Dr. Macintyre referred to the cases apparently cured or benefited which had been placed upon record at home and abroad, and of the results in his own experience he described (1) an epitheliomatous mass filling the whole nasal cavity and passing behind the upper lip to the gums near the roots of the incisor teeth, which entirely disappeared under treatment; and (2) a case of tumour of the breasts, still under observation, in which the malignant neoplasm on the left side had disappeared and the other side was rapidly making satisfactory progress. Inoperable cases were also considered and Dr. Macintyre next referred to the great relief from pain which often took place during treatment, also to the disappearance of indurated masses, œdema, pressure symptoms, and enlargement of glands even in cases that were surgically considered inoperable. The results in sarcomatous cases were also mentioned, as well as the chances of future progress in the treatment of these and other affections. Lastly, the question of how these forces acted and the theories involved were referred to, and also the microscopic appearances of sections of the tissues while the treatment was being pursued. In conclusion, Dr. Macintyre referred to the reserved and dignified attitude which the profession up till now had maintained in reporting upon cases of malignant disease treated in the way indicated, a course which was no doubt due to the responsibility felt by those who had occasion to write upon the subject. False hopes were easily raised and a reaction in thought might result were this fact forgotten. Till they knew more about the result of these forces in the treatment of malignant disease he thought it better to reserve them for cases in which surgical interference was not advisable, or where recurrence had taken place after operation, but it ought to be remembered that it had been from such unpromising cases that the results already put on record, such as they were, had been obtained.

NORWICH MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Oct. 7th, when an address on Acromegaly and Gigantism was delivered by Dr. G. A. Gibson (Edinburgh). The following is an abstract of his remarks. After expressing his appreciation of the honour which the society had paid him by asking him to open the winter session Dr. Gibson gave a brief historical account of the development of our knowledge of these two allied conditions. He pointed out that when first described by Marie in 1886 acromegaly had been originally conceived as a hypertrophy of the hands and feet, but that since the original description much had been added to the symptomatology of the affection, and that, in addition to enlargement of many of the bones, both external and internal soft tissues underwent increase in size. He then gave a lantern demonstration of photographs and skiagrams of three cases. Proceeding to discuss the morbid anatomy of the condition, he showed that the one constant factor had been an enlargement of the pituitary body. In 48 cases which had been examined post mortem there was a pituitary change in 44, but it was certain that the remaining four cases had not been satisfactorily investigated, in fact there was some dubiety as to their being cases of acromegaly. He further mentioned that there were on record two cases in which alterations in the size and structure of the pituitary gland had been seen, while no symptoms of acromegaly had been present during life. Turning to gigantism Dr. Gibson related the interesting

description by Professor D. J. Cunningham of the Irish giant, Cornelius Magrath, and his discovery that the condition of gigantism depended, like acromegaly, upon a change in the pituitary body. Through the kindness of Professor Cunningham he was able to show some beautiful photographs of the Irish giant as well as of some other well-known giants. He stated his entire agreement with the suggestion of Dr. Woods Hutchinson that gigantism only differed from acromegaly in respect of the age at which it began. Apparently when the pituitary change occurred in early life before the union of the shafts of the long bones and their epiphyses, gigantism was the result, whereas when the pituitary change only began, as was commonly the case in acromegaly, at the age of 25 or 26 years, acromegaly resulted. He drew an analogy between this interesting fact and the well-known observation that in cases of cretinism the use of thyroid extract only produced growth when the patient was sufficiently young to have the epiphyses still ununited. Dr. Gibson then discussed the structure and physiology of the pituitary body, dwelling particularly upon the work of Dr. W. L. Andriezen and Professor E. A. Schäfer. He pointed out that, so far, it had been impossible to correlate these interesting researches with the known facts of acromegaly and gigantism. As to the practical deductions to be drawn from the facts which he had laid before the society, he expressed his opinion that, by the employment of thyroid substance in early cases of acromegaly, an arrest of the further progress of the disease had been secured, while improvement under the same treatment had actually occurred. In this connexion he cited some useful experiences which he had met with.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—A meeting of this society was held on Oct. 9th, Dr. G. R. Murray being in the chair. The following members were elected as office-bearers for the session: President: Dr. Murray. Vice-Presidents: Dr. James Smith, Dr. D. Drummond, Mr. J. Rutherford Morison, and Dr. R. S. Peart. Secretaries: Dr. Thomas Beattie and Dr. A. M. Martin.—Dr. J. D. Wardale showed an example of Epicanthus in a young child.—Mr. W. G. Richardson brought forward four patients upon whom he had operated for prostatic hypertrophy. The tumours removed were shown. The suprapubic route in every case was chosen.—Dr. Martin exhibited two patients, one of whom, an old man, aged 70 years, had been the subject of Prostatic Disease for four or five years previously and had complete retention. He was now able to pass urine easily and completely to empty his bladder. The other patient, aged 57 years, had prostatic symptoms for a year previously and latterly had two attacks of retention. In this case the whole prostate was removed. He was now, one month after operation, passing his urine per urethram.—The President, Dr. J. W. Leech, Dr. R. C. De Lacey, Dr. James Drummond, and Dr. H. B. Angus took part in the subsequent discussion.—The President brought forward a man, aged 36 years, who in infancy had some acute illness, after which the head commenced to enlarge. He had now well-marked hydrocephalus, was blind, and had feeble muscular power. Tendon reflexes were exaggerated and ankle clonus was present. The President thought that the condition had resulted from a posterior basic meningitis.—The President also showed a young man who, after a severe injury to the head, had developed a most peculiar gait. In walking the right foot was held in dorsiflexion, the heel only touching the ground.—Dr. Martin exhibited two men upon whom he had performed extensive operations for Epithelioma of the Mouth and Face. In the first, in order to clear away the disease, the whole upper jaw on the left side, the pterygoid processes, and a large piece of infected skin were removed. In the second the left half of the lower jaw, the left half of the floor of the mouth, and the glands in the corresponding submaxillary triangle were taken away together with a large piece of infiltrated skin. Both patients had made good recoveries. In both preliminary laryngotomy was practised.—Dr. Angus showed a man, aged 22 years, who had suffered from Ear Trouble for ten years. Ten days before operation he had severe headache and five days later he had a rigor which was repeated on three occasions. On admission to hospital he looked ill. The skin covering the left mastoid was swollen and tender. There were fulness and tenderness over the upper end of the internal jugular vein. Shortly after admission his left lateral sinus was exposed and found to be thrombosed. The septic clot was thoroughly scraped out. The internal jugular vein was next exposed, ligatured, and divided below the junction of the common facial vein which was also ligatured and divided. The patient made a good recovery.—Dr. Wardale showed two beautiful specimens: (1) Sarcoma of the Choroid, and (2) Glioma of the Retina.

FOLKESTONE MEDICAL SOCIETY.—A meeting of this society was held on Oct. 10th, Dr. T. Eastes, the President, being in the chair.—Dr. W. J. Tyson read a paper on Ophthalmic Notes in Medical Practice. He said that it was almost impossible to separate many of the more common complaints of the eye from ordinary medical practice and that a knowledge how to treat these or, at any rate, how to apportion their due significance, should be possessed by all practitioners. He thought that at the schools too much had been taught to the practitioner upon subjects which in practice he never had to deal with and operations described which he never performed. He suggested that it would be better if at the schools the leading points in ophthalmology were given in two or three illustrated lectures and these firmly impressed upon the minds of the students so that they could distinguish between the important and unimportant diseases of the eye and produce a result in practice more satisfactory to practitioner and patient alike. Dr. Tyson then described the more common diseases, such as phlyctenular ophthalmia, ulcers of the cornea, iritis, glaucoma, and the various forms of refractive errors which give rise to headaches. He lastly briefly reviewed several diseases giving rise to troubles of the eye, especially syphilis, Bright's disease, diphtheria, rheumatism, gout, and pyæmia.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—The annual meeting of this society was held in the medical library of University College, Bristol, on Oct. 8th, Dr. Barclay J. Baron (and afterwards Mr. G. Munro Smith) being in the chair.—Mr. Smith gave his presidential address on "The Medical Life" and stated his views on some of the advantages and disadvantages incident to the profession of medicine and surgery and on some of the effects produced in the character and intellect of those who followed those avocations. He also related numerous interesting stories of local medical men.—The reports of the honorary secretary (Mr. J. Paul Bush, C.M.G.), of the editorial secretary (Mr. J. Taylor), and of the honorary librarian (Mr. C. K. Rudge) were read and adopted. The report on the medical library showed that it contained 21,624 volumes and received 227 current periodicals.—Mr. Bush was appointed president-elect.

PLAISTOW AND CANNING TOWN MEDICAL SOCIETY.—A meeting of this society was held on Oct. 10th, Mr. Percy Rose being in the chair.—Some interesting cases were exhibited by members.—Mr. Rose showed a case of Double Exophthalmos.—Dr. E. Hay showed a case of Myxœdema, a case of Erythema Multiforme, and a case of Motor Aphasia.—Dr. W. C. Taylor read notes of a case of Leucocythæmia, and Mr. Jordan Harvey showed the Spleen and some Blood-films taken from the same case.—Dr. G. Schorstein read a paper on Uræmia and Chronic Interstitial Nephritis.—The meeting terminated with a vote of thanks to the lecturer for his interesting address.

BIRKENHEAD MEDICAL SOCIETY.—At the inaugural meeting of the session of this society, Mr. H. Laird Pearson, the President, being in the chair, Dr. W. R. Dalzell showed a patient with Gangrene of the Toes following a fracture of the leg.—Dr. Harris and Mr. S. Wilkinson commented upon the case.—The President delivered his inaugural address, "A Few Impressions of a General Practitioner during 18 Years of Practice."—Dr. Harris proposed a vote of thanks to the President for his interesting and suggestive address, Dr. E. H. Brien seconded the motion which was carried, and the President briefly replied.

LUNACY IN SOMERSET.—At the meeting of the Somerset county council held on Oct. 14th the asylums committee reported that there were 1363 patients at Wells and Cotford, as compared with 1320 on the corresponding date of last year. The report added that extra accommodation was absolutely necessary and the committee recommended that Cotford Asylum, which at present contains 450 patients, should be enlarged for the reception of 300 additional patients. The recommendation was adopted.

Reviews and Notices of Books.

Elements of Human Physiology. By ERNEST H. STARLING, M.D. Lond., F.R.S., Jodrell Professor of Physiology, University College, London. Fifth edition. London: J. & A. Churchill. 1902. Pp. 694, 8vo. Price 12*s.* 6*d.*

THE rapidity with which edition after edition of this work is called for shows that it is well written and that it meets the wants of the student of medicine, for whom, indeed, it is written. Professor Starling has found the happy medium between a mere examination compendium or "cram" book and a treatise so long and learned that the ordinary student wearies of it before he has reached the middle. The author has done much original and experimental work himself, is well posted in the results of recent research, and whilst writing easily and pleasantly knows how to discuss and to explain the more difficult parts of that branch of knowledge which he has made his own.

In the present edition the volume is only enlarged to the extent of about 20 pages. Scarcely more than verbal alterations appear to have been made in the first 500 pages. In the subsequent part a section has been added on Sensations of Movement and Position, particularly bearing upon muscular sensations and upon the static sense or sense of position. It is shown that the sense of position is intimately associated with the movement of fluid in the semi-circular canals. "In the pigeon," the author says, "it is possible to cause a movement of fluid in any desired direction in one of the canals. For this purpose one long canal is exposed and plugged in the middle of its course as a dentist stops a tooth. The bony wall is then removed immediately in front of the stopping and a small tube fixed on the head by means of plaster-of-Paris in such a position that a blast of air from a rubber ball connected by a flexible tubing with the first tube can be directed upon the opening in the canal so as to set up a current of endolymph in the membranous canal. It is found invariably that the animal responds to each mechanical stimulus produced in this way with a movement of the head and eyes in the same direction as the current of endolymph and in the same plane as the semicircular canal involved." Diagrams of the relative position of the semi-circular canals are given. A few sentences have been added in the later portions of the work which upon the whole remains with little alteration as it was in the edition of 1900.

In the possession of this work and of a trustworthy treatise on histology the medical student will have the means at his disposal of gaining a very sound knowledge of what were, and still are in some universities, termed the institutes of medicine.

Ligaments, their Nature and Morphology. By J. BLAND-SUTTON. Third edition. London: H. K. Lewis. 1902. 8vo, pp. 112. Price 4*s.* 6*d.*

A CONSIDERABLE interest attaches to this small but well-known book in that it is not merely a collection of curiosities of dissection and suggestions gleaned from re-recorded work but that it represents in a convenient compass both the observations of others and a vast amount of careful dissection of many animals by the author, for the accomplishment of which he has had opportunities during his prosectorship in the gardens of the Zoological Society of London. These observations he has utilised by making comparisons with homologous structures in the anatomy of man for the purpose of elucidating the variations in such structures.

It cannot be but that such a work should present a good deal of controversial matter. As we remarked in our review of the first edition,[1] "we are not prepared to accept some of his conclusions as absolutely demonstrated." It is one thing to make skilled dissections and to give a faithful and an intelligent account of the same, but it is quite another thing to found thereon explanations as to the causes of the variations of any given structure in different species while generalisations founded upon these explanations must be open to argument. In the majority of the points with which the author deals his conclusions are sound, though somewhat dogmatically put, but to some portions of the work objections can be taken. It might be gathered from the opening argument where the author is dealing with the metamorphosis and regression of muscles that every tendon of every muscle in man was the result of this process. Indeed, the author is at some pains to prove the probability of tendons being metamorphosed muscle and particularly cites evidence in support of this, alluding to the presence within tendons of nerve endings "something like those of muscle," a suggestion hardly tenable in the present state of our knowledge of nerve endings; he cites the appearance of a psoas magnus tendon after birth, which surely cannot be due to a "formation from muscle" but rather to an organisation of connective tissue into tendon by the traction produced on the ends of the muscle owing to the extraordinary change in circumstances arising out of the altered position of the hind limb. The muscle was developed to act on a semi-flexed limb and after birth it has to act on a much extended limb; can it be wondered at that there are produced a lumbar curve, and at the point of peculiar strain—the narrow muscle insertion—excitation, hyperæmia, growth of connective tissue, and a "tendon"?

The proposition of "metamorphosis and regression" is fallacious. A study of ontogenetic development demonstrates that the "anlage" of muscle tissue early appears in a form distinct from the common bulk of its mesoblastic congeners and that it progressively develops until individual muscles can be recognised when as yet no "tendon" or "muscular attachments" exist, but merely soft mesoblast separating muscle from muscle and muscle-ends from prospective points of attachment. Later, a condensation of the mesoblast in the line of traction of a muscle indicates the formation of fibrous links, tendon, or aponeurosis, as the length of the limb or shape of a part requires. Thus, a length of tendon by no means certifies "metamorphosis or regression of muscle," but rather points to the necessity for a primary consideration as to its relation to length of limb. Hence, it is obviously unnecessary to conclude that, because reptilian muscles have little tendon and mammalian muscle much tendon, the distal portion of a muscle present in the reptile, and apparently absent in the mammal, has been "metamorphosed" into the mammalian tendon. The more correct procedure will lie in the recognition of the facts that mammalian limbs are commonly longer than reptilian limbs and that the displacement of the point of application of the muscle-power is compensated for by the utilisation of a greater or less length of connective tissue link—tendon or aponeurosis; i.e., long limbs will be associated with long tendons to appendicular muscles, broad or deep trunks will be associated with broad aponeuroses to somatic muscles. The improvement in delicacy of modelling allowed by this arrangement requires but a moment's thought for its recognition. This explanation disposes of a large class of muscular variations in different beasts and leaves a clear field for the consideration of "regression" or, as we would prefer to say, "degeneration" of muscle, where the contractile tissue

[1] THE LANCET, June 9th, 1888, p. 1133.

disappears and the connective tissue skeleton of the muscle endo-, peri-, and epi-mysium, remains as a "ligament"; a true degeneration but not a "metamorphosis"—at least if we adhere to the accepted connotation of the word.

We may seem to have laboured our disagreement with Mr. Bland-Sutton; let us add that his book is deeply interesting and cannot fail to be of continued service both to the anatomist and to students preparing for higher examinations.

Heath's Practical Anatomy, a Manual of Dissections. Edited by J. ERNEST LANE, F.R.C.S. Eng. Ninth edition. London: J. & A. Churchill. 1902. Pp. 696. Price 12*s.* 6*d.*

This book is an old friend and one that has done yeoman service to many generations of students. The fact that it has now reached a ninth edition is ample testimony to its utility.

The editor's object has been to curtail the dimensions of the book without detriment to its main object, that of a guide to dissection. To this end there has been made a clean sweep of those many references to surgery which the former editions contained. We are not sure that this is altogether a benefit; the book is confessedly one for students not aiming at the higher examinations and in whose cases there is probably a diminution of that stimulus arising from ambition and a keen scientific interest. With such men the early association of some of the common facts of surgical anatomy with their dissections serves both to add interest and to provide pegs whereon they may hang their systematic data. The dissector could much better spare the paragraphs and illustrations on such parts of minute anatomy as the scheme of renal tubules and blood-vessels, the tracts and columns of the spinal cord, or the paths probably taken by the fibres of the nerve roots on entering the spinal cord; these the student learns quite well in the physiological laboratory and we have not seen in the British Isles any dissecting-room providing means for the verification of such data of minute anatomy. We miss also the note found in earlier editions instructing the student in the art—by no means unimportant—of sharpening his scalpel, and we observe (with regret which, perhaps, is frivolous) the disappearance of the time-honoured mnemonic for the branches of the axillary artery.

The anatomical descriptions are good, clearly written, and sufficient to enable the student to make the most of his "part." An improvement has been obtained by inserting the coloured plates in the body of the book in association with the sections on those regions which they specially illustrate. Altogether the work maintains its reputation as a safe and concise guide to dissecting.

We would like to suggest to publishers that such works should be bound in waterproof cloth; the usual state of the common cloth binding after being used for a session in the dissecting-room is not pleasant.

Regional Anatomy. By RICHARD J. A. BERRY, M.D., F.R.C.S., F.R.S. Edin. Vols. I., II., and III. Edinburgh: William Green and Sons. 1902. Pp. 673.

THIS work is a "new and revised edition" of an earlier book entitled "Essentials of Regional Anatomy," and in it "much has been added and even more has been rewritten." At present it extends to three volumes, treating of the limbs, the abdomen and thorax, and the head and neck. There is a promise in the author's preface of "the issue of subsequent volumes dealing with the central nervous system, the joints, and special senses." The work is well printed but is of unattractive uniformity; it is interleaved with blank pages. There are no illustrations; it is designed that the student should furnish his own, a plan which the author has found to meet with much success.

It is difficult to find a definitive place for this work. It is not a guide to dissections, it is not a text-book, and it certainly cannot be termed a "cram" book. It purports to be intended primarily for the use of senior students, yet it is written in a style which, though it might be permitted in an anatomical demonstrator lecturing extempore to a class, is wearisome in print and suggestive of a primer for kindergarten use. The book lacks concentration which is so important in the record of the mass of minutiæ of which an anatomical work must consist and without which it is impossible to hope for the production of a lasting impression on the mind of the student. The idea that such a work is calculated to benefit the senior student so that in the last days before his examination he should have recourse to it is negatived by a remembrance of the proverb, "Don't swap horses whilst crossing the stream." The student preparing for immediate examination had better not try new text-books; the sight of a familiar page will recall the work of many days in the dissecting-room in a manner that no new page can.

LIBRARY TABLE.

Typhoid Fever. The Milroy Lectures, 1902. By W. H. CORFIELD, M.D. Oxon., F.R.C.P. Lond. London: H. K. Lewis. 1902. Pp. 159. Price 2*s.* 6*d.*—The full title of these lectures, which were delivered before the Royal College of Physicians of London, is "The Etiology of Typhoid Fever and its Prevention." The lectures have already appeared in our columns and, as our readers will have seen, are really, to quote the lecturer's own words at the conclusion of the course, "a concise summary of reports of outbreaks of typhoid fever scattered throughout public health literature." With regard to prevention, Dr. Corfield says but little, for, as he remarks, "the methods of prevention are those which apply to any infectious disease, ... the greatest attention should be given to methods of indirect infection." Water is the chief channel of infection but various articles of food must be protected, such as milk, oysters, and the like.

Preaching and Healing. The Report for 1901–02 of the Church Missionary Society Medical Mission Auxiliary. London: Church Missionary House. 1902. Pp. 130.—This is a report of medical mission work in nearly all parts of the world. There is an interesting note from Eastern Equatorial Africa by Mrs. Edwards, the wife of the medical missionary in charge, an account of presumed demoniacal possession. Similar instances have been described from China by Nevius and from another part of Africa by the late Captain Wellby. "The patients," says Mrs. Edwards, "who were near her took very little notice, only saying '*Pepo*' (Spirits)."

The Science and Art of Prescribing. By E. H. COLBECK, M.D. Cantab., and ARNOLD CHAPLIN, M.D. Cantab. London: Henry Kimpton. 1902. Price 5*s.* net.—This, on the whole, is a very good little book, and we quite endorse the authors' remarks that the art of writing prescriptions has languished under the influence of the habit of using ready-made formulæ. The first chapter gives an account of the various parts of a prescription, together with a typical one. This prescription is quite unexceptionable but for the fact that the authors fall into a well-known pitfall of Latinity—viz., they write, "Recipe, Aquae Menthae Piperitae ad unciam unam." Why the transitive verb "recipe" should not be allowed an accusative after it we do not understand. The same mistake occurs again and again in the book and should, if a second edition is published, be corrected. Chapter II. deals with the subject of incompatibility and will be found very valuable. It is, however, not so complete as it might be; for instance, we find, "Alkaloids and their salts are incompatible with (*a*) alkalies and alkaline salts; (*b*) tannic,

phosphoric, and boracic acids." There is not a word here about the actions of iodides and bromides upon alkaloids, though further on we find that "iodine and the iodides should not be prescribed with (*a*) alkaloids." But there is no mention of bromides. Not so very long ago there was a case reported from the Cape of death occurring from strychnia poisoning. The alkaloid had been given together with a bromide, with the natural result that it was precipitated, sank to the bottom of the bottle, and was all taken in the last dose. Chapter III. gives an account of the various methods of administering drugs, and the remainder of the book is taken up with a collection of typical prescriptions as employed in various diseases. With the exception of the defective Latinity to which we have already called attention these prescriptions are excellent. They include formulæ for the administration of milk to infants which will be found of great value, and despite the one or two slips to which we have alluded the book will be found useful.

Kurzes Lehrbuch der Gynäkologie. (*Short Text-book of Gynæcology.*) By Professor OTTO KÜSTNER. With 260 illustrations in the text. Jena: Gustav Fischer. 1901. Pp. 476, 10 × 7 inches. Price 6 marks.—In the preparation of this text-book Professor Küstner has had the advantage of the assistance of Professor Bumm, Professor Döderlein, Professor Gebhard, and Professor von Rosthorn, who have contributed articles upon various subjects on which they are able to speak with special authority. The result of their coöperation is the production of a very excellent text-book of gynæcology, accurate in its statements and well balanced, and one in which the danger of over-detail has been avoided. After a preliminary section devoted to the Anatomy, Development, and Malformations of the Genital Organs follow sections upon the Diseases of the Vulva, of the Vagina, of the Uterus, of the Tubes, of the Ovaries, of the Cellular Tissue, and of the Peritoneum. Special chapters are devoted to the diseases of the bladder and urethra and to the effects produced upon the pelvic organs by the action of the tubercle bacillus, the gonococcus, and the organisms responsible for the various forms of septic infection and intoxication. The last two chapters are devoted to a discussion of symptoms, diagnosis, and the various methods of treatment both general and local. The greater part of the work is from the pen of Professor Küstner. The portions undertaken by his collaborators are as follows. The sections upon the septic diseases and the technique of antisepsis and asepsis are written by Professor Bumm. He is strongly in favour of Fürbringer's method of disinfecting the hands and recommends the use of sterilised rubber gloves in all cases where the surgeon has recently had to deal with any septic material. The use of rubber gloves is a precaution of the greatest value and there can be no doubt that they are not used in this country nearly so frequently as they might be. The chapter on Tuberculosis of the Genital Tract, by Professor von Rosthorn, is one of the best and most interesting in the book, including as it does a very full account of the various methods of infection. Professor Gebhard has written upon the Anatomy of the Pelvic Organs and on Diseases of the Ovaries, whilst the most important of Professor Döderlein's contributions are those upon Fibromata of the Uterus and Diseases of the Tubes. The plan of printing the more important statements in italics which has been adopted in some of the sections is a useful one from the point of view of the student. The illustrations are good and a very clear idea is given of the various types of hæmorrhage by introducing charts in the text as, for example, the one on page 249 illustrating tubal abortion. An English translation of the book would be a very useful work.

Aids to Dental Anatomy and Physiology. By ARTHUR S. UNDERWOOD, M.R.C.S. Eng., L.D.S. Second edition. London: Baillière, Tindall, and Cox. 1902. Pp. 124. Price 2*s.* 6*d.*—The present edition of this work may be regarded as a new book, for the author has not only rewritten the text but has also enlarged the scope of the book so as to make it an extremely useful aid to the study of dental anatomy and physiology. The book is one to be read by the side of a larger work and the student will find it a much easier task to master the information given in the larger works if he will read carefully through the descriptions of the various subjects given by Mr. Underwood. The writing throughout is simple, clear, and concise, and the author deserves every praise for the way in which he has carried out the revision of his book.

HOSPITAL MAGAZINES FOR OCTOBER.

Charing Cross Hospital Gazette.—Hints on Prescribing and a Bull-fight in Spain are among the contents of the current issue and there are two brief notes on cases in the hospital. "The Perran Sands" is the title of a poem of which Mr. Pascoe, who sends the contribution, says that "it is believed on very good grounds to have come from the pen of the late Lord Tennyson."

St. George's Hospital Gazette describes in one of its articles the new photo-micrographical laboratory of the hospital, which owes its inception to the foresight of the dean, Sir Isambard Owen, and the munificence of Mr. Pierse-Duncombe. A case of tetanus is recorded and the remainder of the number is for the most part devoted to school notes with matters of interest to all St. George's men, whether past or present. A portrait of Sir William Bennett, K.C.V.O., forms a frontispiece.

Guy's Hospital Gazette.—The current issue is a very sober publication. Among its contents are a clinical lecture by Dr. G. N. Pitt and the account of a case of asphyxia and death caused by a tooth in the larynx while the patient was under an anæsthetic. Considerable space is devoted to the students' annual dinner and there are the usual notes and notices relating to the work of the hospital and the medical school.

St. Mary's Hospital Gazette opens with a little sermon of some 600 words, which, while containing some excellent advice to new students, is not too obtrusively didactic. A great part of this issue is devoted to the introductory address by Sir Arthur Rücker, principal of the University of London, and an account of the annual dinner and the presentation to Mr. Edmund Owen.

St. Thomas's Hospital Gazette has for a frontispiece a very good portrait of the late Dr. A. B Blacker and among the contents is a useful little paper on Some Notes on the Technique of Surgical Dressing. Like most of the hospital magazines this gazette has a light as well as a serious side and in the former department a writer breaks out into verse on the prospects for new students, beginning—

> "We've many things in store for you;
> Lectures and dems. galore for you;
> You must work like a horse on your five years' course,
> And then there's the open door for you."

Westminster Hospital Gazette, or to use its alternative title "The Broad Way," devotes much of its contents to matter written in a light vein. Dr. W. Murrell has a paper on the Art of Prescribing which may prove useful, but we cannot endorse all his views, especially those with regard to directions to patients being written in Latin not according to the most approved classical models. If by this he means that directions to the patient may be written in slipshod Latin we cannot agree. If a prescriber is uncertain about his Latin it would be better if he confined himself to English. Moreover, to label urethral injections "hair wash" is, we think, objectionable.

Analytical Records
FROM
THE LANCET LABORATORY.

CARLSBAD SALTS.

(INGRAM AND ROYLE, LIMITED, EAST PAUL'S WHARF, 26, UPPER THAMES-STREET, LONDON, E.C.)

A RECENT analysis which we have made of the well-known salts of Carlsbad water shows not only that the total amount of salines keeps constant but that the ratio of the ingredients to each other is also unvarying. The analysis of the salts was as follows: sodium sulphate, 40·33 per cent.; sodium carbonate, 4·95 per cent.; and sodium chloride, 0·35 per cent. Traces of lithia were found to be present. Carlsbad powder presents a similar composition except that moisture is practically absent. The value of Carlsbad salts is well known in tending to preserve an alkaline condition of the blood and as a purgative relieving the portal system. It is satisfactory to find that according to our recent analysis the total amount and ratio of saline constituents are constant, so that a definite therapeutic action once established for a given dose may be counted upon. The salts further are in the same natural combination as in the waters, the alkaline carbonate and the lithia and sodium salts having a favourable modifying action upon the purgative sodium sulphate.

ODIN.

(THE ODIN SYNDICATE, LIMITED, 31, EAGLE WHARF, NEW NORTH-ROAD, LONDON, N.)

Odin is described as a pure vegetable extract, being obtained directly from the protoplasm of the vegetable cell by a method now well known. It consists of a firm paste like ordinary meat extract and its taste and smell are indistinguishable from well-prepared extract of beef. The nourishing properties of odin are evident, since it contains albumins, albumoses, and peptones. The extract further contains a minimum of moisture, over two-thirds of the preparation consisting of solid matter. Proximate analysis gave the following results: moisture, 27·32 per cent.; mineral matter, 20·33 per cent.; and organic matter, 52·35 per cent. The total nitrogen amounted to 8·53 per cent. This figure multiplied by the albumin factor accounts approximately for the total organic matter. The preparation is satisfactory, offering the same nourishing properties as a good beef extract in which the nutrient elements preponderate decidedly over the merely stimulating substances.

MISTURA LITHII COMP. (SELLERS).

(J. SELLERS AND CO., 11, CLERKENWELL-GREEN, LONDON, E.C.)

We found this preparation to be, as described, a combination of the salts of lithia with piperazine, citrate of potash, bicarbonate of potash, and colchicum. One drachm contains two grains each of lithium carbonate, lithium bromide, and piperazine, and five grains each of potassium citrate and bicarbonate and two minims of the tincture of colchicum seed. It will be obvious from this formula that it is a useful combination of drugs which are generally regarded as solvents of uric acid. The preparation is therefore suggested for gouty affections.

JAMAICA RUM (BATTLE-AXE BRAND).

(A. A. BAKER AND CO., 30, MINCING-LANE, LONDON, E.C.)

This is an excellent specimen of rum, possessing the peculiar aroma and flavour which are characteristic of the spirit distilled from cane juice. As might be expected, considering the presence of acids in sugar, rum contains quite a remarkable amount of volatile ethers; indeed, in this respect rum even excels brandy—i.e., genuine grape spirit. The well-known stimulating properties of rum are probably due to this fact. Our analysis of the sample was as follows: alcohol, by weight 60·67 per cent., by volume 68·33 per cent., equal to proof spirit 119·74 per cent.; alcohol in ethers, 1·49 grammes per litre; extractives, 0·58 per cent.; mineral matter, 0·02 per cent.; and total acidity calculated as acetic acid, 0·02 per cent. There are satisfactory features in this analysis: the extractives are not excessive, there is practically no degree of acidity, while the alcoholic strength is high. The amount of ethers is remarkable, being over five times as much as is generally found in ordinary brandy. We believe this to be a genuine specimen of very good rum.

CADBURY'S MILK CHOCOLATE.

(CADBURY BROTHERS, LIMITED, BOURNVILLE, NEAR BIRMINGHAM.)

This chocolate may be described as a really nutritious sweetmeat. It contains all classes of food, fat, carbohydrate, and proteid, in suitable proportions, being made with cocoa, sugar, and full cream milk. Our analysis gave the following results: moisture, 1·10 per cent.; mineral matter, 2·40 per cent.; fat, 31·50 per cent.; proteid, 11·18 per cent.; and cane and milk sugar, 53·82 per cent. The fat consists of one-fourth of milk fat and three-fourths of cocoa fat. The sugar consists of about one-fifth of milk sugar and four-fifths of cane sugar. This milk chocolate is agreeable to the taste and not too sweet. It is both sweetmeat and food.

FELS-NAPHTHA SOAP.

(FELS AND CO., PHILADELPHIA, U.S.A.; SALES COMPANY, LIMITED, 39, WILSON-STREET, LONDON, E.C.)

It may be safely said that the more powerfully detergent and cleansing a soap is the more effective will it be in sanitary applications. Fels-naphtha soap exhibits remarkable cleansing powers and will do its sanitary work in cold water and to some extent without scrubbing. In its ordinary condition it contains nearly 33 per cent. of moisture, so that the soap is soft to the touch and readily yields to the dissolving influence of water. The free alkali present, as strikingly shown by the phenolphthalein test, is of course a powerful aid to the action of the soap. We could find nothing in the soap which would account for the derivation of its name. On distilling some of it which had previously been decomposed by hydrochloric acid there was no evidence of petroleum bodies in the distillate. The soap is, of course, not suitable for the skin but removes all kinds of dirt and stains in a very satisfactory manner.

(1) SWISS CREAM; (2) FULL CREAM UNSWEETENED MILK (CONDENSED); AND (3) FULL CREAM SWEETENED MILK (CONDENSED).

(NURDIN AND PEACOCK, 59-65, WELLS-STREET, OXFORD-STREET, LONDON, W.)

1. The specimen of cream gave the following figures on analysis: moisture, 58·00 per cent.; fat, 37·60 per cent.; curd, 4·10 per cent.; and mineral matter, 0·30 per cent. The cream presented a satisfactory consistence and flavour in spite of the fact that it is sterilised by heat. As will be seen from the figures the proportion of fat is excellent. 2. The analysis of the full cream unsweetened condensed milk was as follows: moisture, 64·05 per cent.; mineral matter, 1·28 per cent.; milk sugar and proteid, 24·63 per cent.; and fat, 10·04 per cent. The composition of this condensed milk is in accordance with the recommendations of the departmental committee appointed by the Board of Agriculture. The preparation is semi-liquid and contains no added sugar. 3. The full cream sweetened condensed milk gave the following results on analysis: moisture, 44·66 per cent.; mineral matter, 1·99 per cent.; cane sugar, milk sugar, and proteid, 43·32 per cent.; and fat, 10·03 per cent. This preparation again contains a satisfactory proportion of milk fat. The sample examined was uniform in consistence and in a sound condition. The preparations are exactly what they are declared to be.

THE LANCET.

LONDON: SATURDAY, OCTOBER 25, 1902.

The Medical Profession and the Army.

WE published in THE LANCET of Oct. 18th (p. 1088) an address which Sir WILLIAM TAYLOR, K.C.B., the Director-General of the Army Medical Service, delivered on Oct. 15th at University College, London, on a subject of truly national interest, and especially so perhaps at the present time. The Director-General took for his text the Medical Profession in Relation to the Army and his address, which has the merit of being conceived in a bold and comprehensive spirit, contains a great deal calling for thoughtful consideration. The British Empire is no longer merely a geographical expression and the time has come when the medical profession must acknowledge its responsibilities towards the armies of the new and consolidated empire. It is not only because the Director-General approached his subject from much the same standpoint as we have in the pages of THE LANCET, but because he has tried to impress a practical stamp on what he had to say instead of simply indulging in vague generalities or in some well-recognised and commendable principles, that we read his address with more than usual interest. The British nation are an eminently practical people, but we are, nevertheless, only too ready to follow in the footsteps and to adopt the methods of the last military power that happens to be successful in the field instead of seeking to organise and to develop during peace all our own resources available for war. The loss of life and money and the waste of energy arising out of a chronic state of unpreparedness are incalculable, and notwithstanding all the labours of the Army Medical Service, supplemented by the enthusiastic efforts of the civil profession and the aid of Red Cross societies, the hospital services do not somehow come out of campaigns with all the credit that should belong to them. One reason for this is that unthinking people expect too much from the service and its various and numerous allies, forgetting that no two wars are alike; another reason is our want of system and of preparedness for war. Everything depends upon a clear appreciation of the medical and sanitary requirements and the right method of fulfilling them—in other words, upon an adequate, simple, and effective system of medical organisation and administration and a due provision and proper distribution of men, material, and transport, and upon their working together in conformity with one and the same object and upon an accepted system. It is assuredly essential, if we desire to get all we can out of the resources at our command, that we should know how best to turn them to account. No amount of fitful, patriotic, humanitarian enthusiasm, and no professional skill will make up for want of method and of previous training. The evils of a defective hospital system in time of war are felt throughout the whole army, for its freedom of movement, that is, the power of the generals in command of any given force, will be in direct proportion to their being able to act and to move untrammelled by any other than strategical or tactical considerations. And as regards the sick and wounded, the best medical skill will be of little avail if they are not transported in such a way and under such conditions as to enable them to profit by it.

The Director-General's address, which our readers are certain to have read for themselves, contains much material for comment and discussion, but we propose to touch upon some of the more important points only. To begin with, we are glad to notice that the existence of any essential differences between the civil and military branches of the profession is wisely set aside by the Director-General, and that he assumes, as the result of the patriotism exhibited by the civil profession in the late war in South Africa, that the responsibilities of the medical profession as a whole towards the armies of the Empire will be generally recognised and accepted; that assumption forms, indeed, the *raison d'être* of the address. While the strength of the Medical Service of the regular army in peace is necessarily for financial and other reasons a very limited one, it must always be able to fall back upon a reserve of very highly qualified professional *personnel* in time of war. The Director-General is right to count upon the patriotism of the medical profession in his work as head of the Army Medical Service. But patriotism is not sufficient; well-directed knowledge is also required. It is very important, therefore, that medical men should have a clear idea of the ends that military medical organisations endeavour to secure. The sick and wounded soldier is on field service, in both a humanitarian and tactical point of view, entirely in the hands of the medical officer and the Medical Service. More than purely professional knowledge is necessary. The general public regarding the subject from the humanitarian side, conclude that a good medical man is necessarily a good medical officer on active service. The War Office knows better. How did the civil profession stand in respect of that tactical knowledge which was required—indeed, was indispensable—in the late Boer war? Their volunteer work was beyond all praise for the unselfish way in which it was done, but there were only a few medical men who had studied in times of peace the problems that have to be dealt with in war and so had doubled their efficiency in the field. The Director-General went on to point out how absolutely necessary it was to efficient medical service in the field to have an acquaintance with military organisation and equipment and with the methods and means of army transport and supply. To this end Sir WILLIAM TAYLOR suggested and strongly advocated that each medical school or combination of schools should equip, maintain, and administer hospital units in times of peace which would help in the training of all concerned. Then, when required for war, such units could be despatched to the field in a state of efficiency.

Commenting on what he called the policy of the Medical Department of the War Office Sir WILLIAM TAYLOR said that he had now the advantage of the assistance of an

Advisory Board and a Nursing Board. In the Advisory Board the civil profession was represented by five members; that was a means of drawing the profession together for mutual aid in a common cause. Four questions of importance now occupied attention—(1) the better adaptation of the non-commissioned officers and men of the corps to duties in peace and war; (2) the establishment of an efficient nursing service; (3) opportunities for study and research for the officers; and (4) the founding of a sanitary department. In regard to the first the non-commissioned officers and men were to be divided into four sections—nursing, general, cooking, and clerical. This is manifestly a step in the right direction and one for which we have contended. With respect to the establishment of an army medical school and institute in London we do not think that there can be two opinions about the wisdom of the step or the important effect which it will have on the future of the Army Medical Service. There is no need to repeat what we have previously said on that subject, but if the scheme be developed in the direction and to the extent desired it will come very near to realising the conception of an Imperial Medical Service previously outlined by us. We have the assurance of the Director-General that so far from the Advisory Board being a hindrance it has tended to strengthen the tie between the civil and military sections of the profession and has proved to be a help to him in the work of his department. As regards a sanitary department of the army it is proposed to appoint 20 special sanitary officers with laboratories and facilities for the prosecution of scientific research work. This is obviously an excellent provision, but we may remark that something in the shape of a sanitary corps composed of a directing staff and an executive seems to be required for practical field service sanitation in war—a much more difficult matter than seems to be generally imagined. Some people will, of course, regard the Director-General as having adopted a too optimistic tone in speaking of the career opened out by the Army Medical Service, but it cannot, we think, be denied that if the new regulations are honestly and judiciously carried out the young medical officer will be the master of his fate to a greater extent than has ever before been the case. The head of the Army Medical Service will also officially occupy a recognised and far more influential position, especially in time of war, than any of his predecessors have occupied.

Past Classical Literature and Present Accepted Practice.

AT the beginning of the medical year, when the columns of newspapers, both lay and professional positively bulge with the compressed wisdom of introductory addresses, the question is not seldom raised whether any useful end is really served by these formal exhortations to those who are freshly enrolled in the army that fights for health against disease. We have heard the occasion of an introductory address cynically described as one upon which an eminent gentleman talks about his experiences to men who are either too young to understand him or too old to believe him. Fortunately, however, this denunciation is very rarely applicable and there are many things to be said in favour of the introductory address. We have seldom felt more decidedly inclined to hope for the long continuance of the practice of these addresses than after reading the address recently delivered before the Liverpool University College Medical Faculty by Sir FREDERICK TREVES, a short abstract of which appeared in the letter of our Liverpool correspondent last week. This favourable sentiment was aroused in us, not so much by the matter or the manner of Sir FREDERICK TREVES'S address, excellent though both were, as by the principle upon which the orator appeared to have worked in selecting and in exploiting his subject. To take a classical work such as Sir THOMAS BROWNE'S "Religio Medici" and to compare the author's mental attitude with that of a man similarly placed in the present day seems to us an excellent plan for the purpose of an introductory address. Sir FREDERICK TREVES ingeniously regarded the "Religio Medici" as, so to speak, an introductory address by Sir THOMAS BROWNE to himself. In this way the orator proceeded to unfold the leaves of Sir THOMAS BROWNE'S work, to examine the position of medical knowledge two and a half centuries ago, and in some detail to compare the mental attitude of a medical man of that time in relation to disease generally, and to his patient in particular, with the mental attitude of the medical man of to-day in the same relationships.

If every introductory address thus led us, as that delivered by Sir FREDERICK TREVES is bound to lead us, to the study of a beautiful and ennobling work of literature the practice of addresses would be fully justified. In such works there is, as has been well said, together with much that is inacceptable to the modern physician, "a not inconsiderable part which rests upon unchangeable foundations and which is beyond criticism." In the work of every writer whose good name has stood the examinations and criticisms of centuries such a part will be found, and an address is welcome which directs attention to great medical classics at a day like the present, when the reader is so liable to be swamped by the ever-rising flood of contemporary writing. If on the threshold of his career a student can be led to appreciate the value of such writing as that of Sir THOMAS BROWNE he will gain a standard which will enable him to dispense with much that would otherwise cumber him. To be able to perceive honesty of thought and clearness and beauty of expression when they are presented is a boon to the medical, as well as to any other class of, reader. There are few writers in the English language better equipped to instruct the reader in how and what to appreciate than Sir THOMAS BROWNE. It matters not if he is dealing with articles of faith that can no longer be rigorously upheld, or with conceptions of disease that the youngest student of to-day knows to be false, whatever his subject matter there shines through the manner of his dealing with it the pure ray of an honest, noble, and inquiring mind. No man can read his reflections upon death, for instance, with their philosophic note of courage, without gaining an inspiration, whether or not he has to deny himself the sure foundation of faith on which Sir THOMAS BROWNE rested so securely.

If in the domain of religion, perhaps, the faith of modern

physicians rests on a less undoubted basis and is a more perplexed affair than was the faith of Sir THOMAS BROWNE, at any rate in the matter of medical practice our science owns a solid and proved foundation which was not even conceivable two centuries ago. Accordingly, there is nowadays in the general attitude towards illness a hopefulness which was naturally absent in earlier times. Particularly is this sanguine anticipation of a favourable result noticeable in our usual attitude towards all purely surgical complaints. In a hundred different instances, where formerly cure was regarded as impossible or as involving the direst risks, safe and successful operation is now the ordinary course of events. The right that we have nowadays to hold with frequency a sanguine view, based on rationally achieved successes, strikes very forcibly the reader of Sir FREDERICK TREVES'S address. Symptoms hitherto regarded as ominous are brought into line as part of the defences which nature erects and behind which the surgeon is able in security to apply his art. Indeed, so favourably do the incidents of an attack of appendicitis pass through the ordeal of Sir FREDERICK TREVES'S criticism that the reader almost is led to feel it an ill that he has hitherto been well. And there is no doubt that for the public disease is largely losing its terrors owing to the progress of modern medicine. But the relationship between the medical man and his patient must remain unchanged. Now, as in the time of Sir THOMAS BROWNE, honesty, kindliness, care, and skill are the inevitable accompaniments of the true physician or surgeon. The strength bred of such qualities and how it should be employed for the benefit of patients are well indicated in Sir FREDERICK TREVES'S suggestive address.

Who should Administer the coming Vaccination Act?

THE Imperial Vaccination League, having in view the desirability of drawing up a programme in reference to impending legislative action, has appointed a sub-committee to collect evidence and to report thereon to the League. The sub-committee has done us the honour to invite us to set forth our views in relation to the question, To which authority should the administration of the Vaccination Acts be entrusted?

It would have been well had the committee in the first instance asked what form the Act which is to be administered should take, and as this has not been done we may, perhaps, state that in our view it is essential to success that revaccination should be placed upon the same footing, *quâ* the so-called compulsion, as primary vaccination. In the absence of revaccination we can never hope to eliminate from our statistical charts those black vertical lines which stand for epidemics of small-pox. With primary vaccination alone there will always exist a sufficient number of persons whose protection against small-pox has so far faded as to afford an abundant harvest to those periodical invasions of the disease which experience has taught us to expect. Germany of all European countries has succeeded in abolishing these epidemics, and she has done so not by primary vaccination only but by combining it with a well-enforced system of general revaccination. Assuming, therefore, that the Imperial Vaccination League will accept revaccination as part of its scheme we may pass on to consider the question—who should be the administering authority?

Four alternatives are before the country, and they are: (1) that the guardians should continue, as heretofore, to administer the Acts; (2) that such administration should be transferred to local sanitary authorities; (3) that the county councils should take over the duty; and (4) that the matter should be wholly administered by the central authority at Whitehall. The first proposal stands condemned both from the experience of the past and from the fact that a measure such as vaccination which has about it an element of compulsion should in no way be associated with the "relief" which is so inseparably bound up with Poor-law administration. On the other hand, there is at first sight much to be said for the next alternative—i.e., that the duty of administering the Act should devolve upon the sanitary authorities throughout the country. Vaccination is essentially a preventive measure and as such might be appropriately applied by those bodies who administer the Sanitary Acts. But such a transference would involve a considerable multiplication of vaccination authorities and there is a danger that if the attention of the anti-vaccinationists were diverted from the guardians to the district councillors the administrative level of district councils might be somewhat lowered. Moreover, the very important fact has to be borne in mind that in rural districts such a transference would be a nominal one only, the *personnel* of the boards of guardians and the rural district councils being largely identical.

We have now two alternatives remaining—the county councils and the central administrative body, the Local Government Board. The latter body must, we think, continue to exercise a supervising power, but the proposal that the detailed administration should be placed in its hands is opposed to the present spirit of local government and is on general principles to be discountenanced. By a process of exclusion we have therefore arrived at the opinion that the county councils are the best local authorities to administer the Vaccination Act. We think this because such bodies are likely in the future to be intimately associated with education and in this capacity to be in a position easily to administer the revaccination clauses of the coming Act. Furthermore, it will probably be conceded that the larger an administrative body the more likely are we to obtain a true and not a distorted reflex of public opinion and to reduce to a non-disturbing factor the emotional and ill-balanced element which tends to bulk unduly on boards of guardians and similar local bodies. In the matter of the provision of vaccine lymph county councils would be able, either alone or in combination, to erect laboratories and to supervise the distribution of lymph, and to examine lymphs sold by commercial firms to medical practitioners. We are not, however, at all certain that in London the County Council is the body best fitted to administer the Vaccination Act. In this respect—as, indeed, in many others—London is in an exceptional position. There is no city in the world where the system of hospital isolation is so complete as it is in the metropolis, the credit for which is

to be placed primarily at the door of the Metropolitan Asylums Board. Here we have complicated machinery all ready and in good working order, the efficiency of which would in no way be diminished were the administration of the Vaccination Act to be added to its functions. There is already a well-developed intelligence department in connexion with this Board which would serve to bring about the visit of the public vaccinator to an invaded house with all possible despatch—indeed, there would be no reason why such an officer should not arrive almost simultaneously with the ambulance.

We hope that the Imperial Vaccination League is in agreement with us as to the main principles to be kept in view. We would suggest that it should organise the most influential deputation which it is able to gather together and should endeavour to urge upon the President of the Local Government Board the importance of embodying these principles in any measure for the reform of the Vaccination Acts which he may be about to introduce into Parliament.

Annotations.

"Ne quid nimis."

THE MEDICAL EXAMINATION OF SCHOOL CHILDREN.

THAT schools are at times instrumental in aiding the spread of infectious diseases must be now accepted as one of the axioms of preventive medicine, and it is needless to insist upon the very obvious fact that if there was a properly organised system for the periodical medical inspection of school children in this country the frequency and magnitude of school epidemics would be diminished. In his current annual report upon the health of the city of Bristol, Dr. D S. Davies draws attention to the fact that in that city there are in the board and voluntary schools upwards of 60,000 children, and he points out that a somewhat extensive inspectorial organisation would be required in order adequately to supervise such a number. But he furnishes a useful summary of what is being done in this direction in certain of our large towns, as well as in Europe and America. For instance, in Leeds and Sheffield the school boards seem to be recognising the necessity for such an inspection, although at present the medical supervision is confined to children who are in some way physically and mentally defective. Birmingham, Bradford, Hull, and London have each appointed a medical officer to see to the health of the school children, but it is not quite clear in what manner these officers coöperate with the local medical officers of health; indeed, it would appear that the functions of these school board medical officers are mainly exercised in relation to conditions other than those of an infectious nature. In America things seem to be on a more satisfactory footing in regard to communicable diseases and the Board of Health of New York had in 1897 no less than 205 medical inspectors of schools. In Chicago a daily inspection was commenced in 1900 and all children absent from school for over four days were required to have their throats examined prior to their return to school. In Boston and Philadelphia a somewhat similar system is in vogue. Germany is in this particular, as in numerous others, ahead of us, and in 1900 the school children in Berlin, Wiesbaden, Königsberg, Nuremberg, Darmstadt, Frankfort, Dresden, and Leipsic were periodically examined. The same story has to be told in respect of Paris, Antwerp, and Brussels, as also of several Swiss cities. There is obviously room for the development of systematic inspection of school children in this country, but we see no reason whatever why such inspection should be limited to infectious diseases. We should prefer to see it embrace an examination for all morbid conditions likely to diminish the child's chances in the struggle for survival or which would be likely, by passing unrecognised and untreated, to render the child a charge upon the national funds. The question as to what authority should be responsible for such inspections is merely a matter of detail. We should be glad to see the principle generally affirmed and acted upon and are pleased to note that the London School Board is well aware of the importance of the situation, as evidenced by the systematic vision-testing which it has just instituted among the children in its charge.

THE SURGICAL IMPORTANCE OF THE ILIO-PSOAS BURSA.

IN the Boston *Medical and Surgical Journal* of Sept. 25th Dr. F. B. Lund calls attention to the surgical importance of a structure neglected by both anatomists and surgeons—the ilio-psoas bursa which lies beneath the musculo-tendinous portion of the ilio-psoas muscle and the front of the capsule of the hip-joint. It extends upwards from the lesser trochanter, frequently to above the brim of the pelvis. In three cases observed by Dr. Lund disease of this bursa simulated deep abscess in front of the hip-joint. In one case strangulated hernia was diagnosed. According to Tillaux, who realised its importance, "The bursa often communicates with the hip-joint. Fluid collected in it gives rise to a deep-seated tumour which lifts up the femoral vessels and may be mistaken for a cold abscess, a cyst developed in a gland, or an old hernial sac. Inflammation of the bursa may extend to the joint or *vice versâ*. Thus psoitis may lead to suppuration first of the bursa then of the hip joint." In three out of 18 cadavers Dr. Lund found that the bursa communicated with the joint. He also observed the three following cases. Case 1. A labourer, aged 70 years, noticed a painful lump in the right groin which caused stiffness of the leg. The bowels had not acted for two days and a medical man diagnosed strangulated hernia and attempted reduction, causing considerable pain. There was marked osteo-arthritis of the hands. In the right femoral region, just below Poupart's ligament, there was a tender tumour of the size of half an egg. The femoral artery was lifted up over it and pulsated over its inner part. Deep fluctuation could be felt. The external inguinal ring was normal and femoral hernia was excluded by the fact that the tumour was external to, and beneath, the femoral artery. A tentative diagnosis of deep abscess in front of the hip-joint was made. A two-inch vertical incision revealed the anterior crural nerve stretched over the tumour. The incision was carried along the inner border of the ilio-psoas tendon and a thick sac was found from which on being opened an ounce of sero-fibrinous fluid escaped. On passing the finger into the sac a smooth cavity lined with synovial membrane was felt. There was an opening half an inch in diameter through which the finger could be passed into the hip-joint, where the head of the femur could be felt rough and covered with osteo-arthritic deposits. Serum and fibrin were washed out of the joint with normal saline solution, the sac was sewn with catgut, and the wound in the skin was sutured. Complete relief resulted. Case 2. A man, aged 22 years, had gonorrhœal arthritis of the left hip in August, 1901. In front of the hip-joint was a diffuse swelling showing fluctuation on deep palpation. A similar operation was performed. The finger was passed into the hip-joint and numerous roughened spots were felt on the cartilage. The joint was drained with gauze for a week. A stiff joint resulted and under ether adhesions were broken down. He now walks

with a slight limp. Case 3. A man, aged 38 years, addicted to alcohol, had in the right groin an indurated tender mass which crepitated. Incision revealed an abscess containing gas and communicating with the hip-joint. The patient died from septicæmia. As the surfaces of the joint were smooth the disease probably extended to it from the bursa. Earlier diagnosis and incision would have been desirable.

THE DISTRIBUTION OF PLAGUE.

THE Director-General of the Sanitary Department of Egypt states that for the week ending Oct. 12th there was but 1 new case reported throughout all Egypt. The sanitary measures carried out were as follows: 4937 rooms were disinfected and 285 were limewashed; 82 sacks of effects were disinfected and 9181 sacks of rubbish were burned. The number of rats killed and burned was 66. As regards Cape Colony the medical officer of health states that for the week ending Sept. 20th there had been no case of plague in human beings at any place in the colony. Rats dead from plague were discovered at Port Elizabeth on Sept. 18th.

THE INTERNATIONAL CONGRESS FOR THE PREVENTION OF TUBERCULOSIS.

As our Berlin Correspondent announces, this Congress was duly opened at Berlin on Thursday last, Oct. 23rd. Dr. C. Theodore Williams is attending the Conference at the special request of the King, His Majesty being desirous that a member of the advisory board of his sanatorium should be one of the English representatives. At the last meeting of the council of the Association for the Prevention of Consumption and other Forms of Tuberculosis, in response to an invitation from Berlin the following five members were chosen to represent the National Association in this country on the International Central Committee: Mr. Malcolm Morris, Sir James Blyth, Bart., Mr. Charles Rube, Dr. Nathan Raw, and Dr. Alfred Hillier. Dr. Nathan Raw and Dr. Alfred Hillier were also deputed by the council to represent the association at the conference.

OBSTETRIC FOLKLORE.

IN the October number of the *Caledonian Medical Journal* Dr. David Rorie of Cardenden publishes an interesting article on Obstetric Folklore in Fife, the county in which he resides. There is, he says, a popular belief in Fife that a subtle sympathy exists between the health of husband and wife, at least to the extent that when the latter becomes pregnant the former is frequently afflicted with toothache or some other minor ailment and that he is liable to this complaint until the birth of the child. Not very long ago a man came to him to have a troublesome molar extracted. When the operation was over he remarked in all earnestness, "I'm feared she's bye wi't again, doctor. That tooth's been yarkin' awa' the last fourteen days, and its aye been the way wi' me a' the time she's carryin' them." (I fear that my wife is in the family way again. That tooth has been aching for the last fortnight, and I always have toothache all the time she is pregnant.) Another patient lately assured Dr. Rorie that her husband "aye bred alang wi' her" (i.e., was always ailing when she was pregnant), and that it was the persistence of toothache in her unmarried adult son which lead her to the (correct) suspicion that he had broken the Seventh commandment and made her a grandmother. These quaint notions can be compared with the present-day *couvade*, still in vogue among some savage tribes, in which when a child is born the father simulates illness for some days and is the object of much solicitude on the part of his nurses and attendants. In *Aucassin and Nicolete*, a romance in prose and verse by an unknown French writer of the approximate date 1130, translated into English by Andrew Lang,[1] the *couvade* receives poetic treatment and the pretended patient is made to suffer in reality. When Aucassin, eloping with Nicolete, after a tempestuous voyage lands in the marvellous realm of Torelore, he asked for the king and was told that he was in child-bed, while the queen was away with the army. So—

> "Aucassin, the courteous knight,
> To the chamber went forthright,
> To the bed with linen dight,
> Even where the king was laid.
> There he stood by him and said,
> 'Fool, what mak'st thou here abed?'
> Quoth the king, 'I am brought to bed
> Of a fair son; and anon
> When my month is over and gone,
> And my healing fairly done,
> To the Minster will I fare,
> And will do my churching there,
> As my father did repair.'"

"When Aucassin heard the king speak on this wise he took all the sheets that covered him and threw them all abroad about the chamber. Then saw he behind him a cudgel, and caught it into his hand and turned, and took the king, and beat him till he was well-nigh dead. ..... 'By God's heart,' quoth Aucassin, 'thou ill son of an ill wench, I will slay thee if thou swear not that never shall any man in all thy land lie in of child henceforth for ever.' So he did that oath."

THE INSPECTION OF PRIVATE NURSING HOMES.

ON the occasion of the opening of a new hospital for children with hip disease at Sevenoaks Sir Henry Burdett took the opportunity of addressing to an audience, presumably interested in works of benevolence, some observations well worthy of their attention and that of our readers. Speaking of private homes open for the treatment of children and chronic cases he dwelt upon their frequent inadequacy for the purpose for which they are ostensibly intended, and upon the insufficient supervision exercised over them by the committees which are, in name at all events, responsible for their condition. Sir Henry Burdett might have gone further and urged the importance to the community of the proper inspection and supervision of all private institutions for the reception of persons needing medical and surgical care by some central authority legally constituted for that purpose. Legislation for the regulation or even the protection of a particular class of society is less likely to prove acceptable to the public than that which has a more general scope, and though the need for inspection that exists may be less pressing in the case of houses maintained for the benefit of wealthier citizens, even the well-to-do require some measure of protection. The evils are not limited to institutions carried on under the guise of charity. To take modern instances of places which might with advantage have been open to official examination and criticism we would refer, as did Sir Henry Burdett, to the home connected with the so-called Royal Military Benevolent Fund, the abuses of which have been recently remedied owing to their exposure in the columns of *Truth*. Mrs. Roach's disgusting institution, to which we alluded in our columns last week,[2] appears to have been a place where persons whose relatives were unable or unwilling to afford more than a very small payment were maintained in circumstances of great filth and squalor. But the death of Sir Robert Harvey's son, which was apparently due to his contracting diphtheria at a home for convalescent invalids, occurred when £5 5*s*. were being paid for the reception and care of the poor boy. It will be observed that all the institutions to which we have referred were maintained for the profit of those responsible for their management. More efficient care, more complete sanitation, would have been sources of expense and as such would have diminished

[1] London: David Nutt, 1887. A small édition de luxe.
[2] THE LANCET, Oct. 18th, 1902, p. 1069.

the profits of those whose object in providing the accommodation given was primarily to make a living for themselves. Completely efficient sanitation makes but little show. Its absence is not readily detected. The necessity for it is not readily appreciated even by those who are to benefit by it. The nursing home which charges £5 5*s.* a week per patient might make itself completely efficient at an extra cost of £1 1*s.* a patient or less, but if it raised its terms to £6 6*s.* or some other sum, with a view to being recouped, the relatives of patients might point to equal comfort and apparently equal cleanliness obtainable for £5 5*s.* at a rival establishment less scrupulously conducted. All this, we submit, points to the desirability of a standard of sanitary efficiency officially tested and officially enforced. The comparative strength of the nursing staff, provided that efficiency is obtained, the quality of the dietary, and kindred matters, must always remain questions to be decided by the management and by the persons whose money pays for what is provided. The object of the inspection and supervision that we recommend should be to secure as far as possible the presence of those essential conditions which the lay public cannot easily test for itself, conditions without which institutions ostensibly conducted for the benefit of the sick and suffering increase the evils which they pretend to diminish.

THE FINANCIAL POSITION OF ST. GEORGE'S HOSPITAL.

A MEETING was held on Oct. 16th. in the board room of St. George's Hospital, for the purpose of organising a special effort to increase the funds of the hospital. Mr. Timothy Holmes (treasurer of the hospital) presided and a large number of prominent old St. George's men were present. A statement was made by the chairman bearing out in every particular the circular letter which had been previously distributed to a large number of those interested in the charity. The contents of this circular letter we noticed in our columns of Oct. 11th [1] and Mr. Holmes was able to show that the serious financial position of the charity then foreshadowed was not exaggerated. His words should once and for all remove the impression that St. George's Hospital is a rich institution. The fact is that between 1892 and 1901 stock of the value of £50,000 has been sold for various causes, of which sum the governors have only been able to replace £38,251 by legacies, while last year the expenditure exceeded the income by £13,154. Mr. Holmes said that during the spring of next year the governors of the hospital intend to institute an investigation into the expenditure of the hospital—a proceeding which we welcome with satisfaction. Such an investigation must not be taken to mean that the pecuniary condition in which the charity now finds itself is due to past prodigality. The governors have always acted upon the conviction that the money bequeathed to the hospital is not given them to hoard up and they have therefore spent liberally in the endeavour to make the institution a perfect one, but there is no reason to suppose that the resources of the hospital have not been prudently dealt with. Still those responsible for the administration of the funds recognise that the excess of expenditure over income in the past will have to be considerably increased as new and more efficient methods of treatment are adopted and a thorough investigation into the directions in which money has been spent, and in which it will have to be spent still more lavishly, is necessary as a guide to future policy. After hearing Mr. Holmes's statements and those of several speakers well known to the audience in support of the same a motion was proposed by Mr. R. Brudenell Carter and seconded by Dr. R. L. Bowles, to the following effect:—

That this meeting of St. George's men is deeply concerned to hear of the serious falling off in the annual subscriptions to the hospital and that the members here present pledge themselves to do what may be in their power to bring the strong claims of this most important and most deserving charity under the notice of the public and will be glad if the board of the hospital will keep them informed as to the position of affairs and as to the special needs of the institution.

The motion was carried unanimously and we trust that the undertaking thus voluntarily entered upon by many St. George's men will bear fruit in the immediate future.

[1] THE LANCET, Oct. 11th, 1902, p. 1006.

QUACKS AND THEIR DUPES.

THE following advertisement appeared in the *Times* of Oct. 18th and is, we think, worthy of comment in many ways:—

FOR CAPITALISTS.—To a person of large capital an OPPORTUNITY is offered of ACQUIRING the MANUFACTURE and sole SALE, for England and the Colonies, of an INTERNATIONAL ARTICLE (Patent Medicine) beyond competition. Epochal invention. The most favourable investment for capital imaginable. No risk. Profit on manufacture 1500-2000 per cent. Best introduced in Germany. Purchase money £5000 sterling. Address, Success, 1902, care of Haasenstein and Vogler, A. G., Stuttgart.

First of all, we like the phrase, "epochal invention." Secondly, we are surprised to see that the advertiser, who is presumably a German, considers that his quack preparation may be "best introduced in Germany," for Germans are shrewd and the German police have no silly ideas about the rights and liberties of the subject when these rights include the right of swindling the subject's fellows. Not so very long ago they seized a quantity of a complexion mixture and having analysed it placarded the town where it was seized with a notification to the effect that the stuff was worth about a halfpenny and yet that the vendor charged about 11*s.* 6*d.* for it. This being so, we can easily credit the remark of the advertiser that the profits on the sale of his stuff run up to between 1500 and 2000 per cent., but we are astonished that he so cheerfully gives away the value of the preparation. The capital, we presume, as the offer is addressed to capitalists, is required for advertising and for subsidising the various persons who write and say in different manners that they never knew what real happiness or health was until they came across Bodger's Blue Boluses or whatever the stuff in question may be called. But what a lesson this advertisement is for the persons—and they must number thousands—who waste their money on quack medicines. That lesson, however, will not be learned, for the class of person who affect quack medicines will probably see neither the advertisement nor the conclusions which may be legitimately drawn therefrom.

CIRRHOSIS OF THE LIVER.

IN the *Boston Medical and Surgical Journal* of Sept. 11th Dr. George G. Sears and Dr. Frederick T. Lord have published a very important paper on cirrhosis of the liver based on all the fatal cases in the Boston City Hospital and the Massachusetts Hospital since 1896 in which the diagnosis was proved by histological examination. Trite as is the subject the writers show that many of the conventional views are mistaken. Many of their conclusions, however, are only confirmatory of those published in this country by Dr. W. B. Cheadle in his Lumleian Lectures [1] and by Dr. W. Hale White.[2] The special object of the American writers was to determine how far the symptoms attributed to hepatic cirrhosis are due to the condition of the liver *per se* and how far to associated changes in other organs. In the etiology alcohol was the most important

[1] THE LANCET, March 31st (p. 903), and April 7th (p. 985) and 14th (p. 1045), 1900.

[2] Guy's Hospital Reports, 1892.

factor; only nine of the 78 patients denied its abuse. Syphilis appeared to be the only cause in four and malaria in three cases. All grades of cirrhosis from its earliest to its most developed form were included. An important fact is that large and small livers were found independently of the amount of fibrosis. A large number of chronic degenerative changes were found in other organs and, curiously, they were as frequent in the early as in the more advanced cases. Numerically the most important were arterio-sclerosis and renal disease. The former was found in 49 cases (often it was confined to a small patch in the aorta); chronic nephritis, diffuse or interstitial, was found in 23 cases. Some chronic affection of the myocardium other than simple hypertrophy was found in 37 cases. On the other hand, in 17 cases complications were slight or unimportant. Splenic enlargement was present in 65 cases and could not be always explained by passive congestion. Chronic peritonitis, more or less general, was found in 15 cases; in 13 of these there had been ascites at some period of the illness. There were two cases of acute peritonitis with ascites. Adhesions between the liver and neighbouring organs were frequent and sometimes served as channels for a new vascular outlet. Jaundice occurred in 31 cases. In three of these obstruction of the common bile duct by a calculus and in one obstruction from duodenitis were sufficient causes. In the remaining 27 cases the jaundice was closely associated with the amount of fibrosis of the liver, being found most frequently in advanced cases; it was usually a late and grave symptom. The writers' analysis shows that hepatic cirrhosis is in a majority of cases but one effect of systemic poisoning which produces degenerative changes in other organs. The splenic tumour and dilated veins are due in part to portal obstruction but also seem dependent on the underlying toxic cause, for they are sometimes associated with slight hepatic changes. Hæmatemesis was almost invariably due to some gross lesion, usually œsophageal varix; in one case it was due to gastric ulcer. Ascites appeared to be independent of the amount of fibrosis of the liver; it usually occurred late. The large proportion of cases of peritonitis, perihepatitis, and perisplenitis in which ascites was present strongly suggested that these conditions took an active part in its production. In this connexion we may point out that M. Fernet has related a case of hæmorrhagic effusions into the pleural and peritoneal cavities (pleuro-peritonitis) from alcoholism.[3] When ascites occurred early it was generally associated with some form of peritonitis. As to the cases in which laparotomy and still more serious operations have been successful the writers think that conclusive evidence is still lacking to show that the ascites was due to cirrhosis and not to coincident conditions.

KING'S COLLEGE MEDICAL SOCIETY.

IN addressing the members of the King's College Medical Society on Oct. 17th at King's College Hospital Sir John Cockburn, K.C.M.G., M.D. Lond., took for his subject "Opportunity and Preparation." He began by saying that the success a medical man should try for was that which resulted from a careful development of natural talents, bringing the practitioner into honourable and serviceable relation with society. There were some who expressed wonder at the good luck certain individuals had in regard to opportunities. It should not be forgotten, however, that the wise man made many more opportunities than he found. According to the classics occasion had plenty of hair in front but was very bald behind—in other words, to secure success it was necessary to seize time by the forelock. The happy doing of the right thing at the right moment was, as a rule, the almost unconscious result of a long and careful training. For a man really to utilise a favourable opportunity he must be prompt and able to translate his knowledge into action. It was necessary to forge that link between thought and action which rendered knowledge of practical use. Every man should strive to have as small a residuum wasted opportunities as possible—in other words, he should be resourceful. Without desiring to detract in any way from the value of theoretical training he wished to point out that it seemed to tend to diminish in many men their resourcefulness. When the opportunity came a man should act on the moment and do his best, he should not wait for the best that might be possible to-morrow. He advised them never to abstain from action or lose an opportunity through thinking too precisely on the event. They should act readily and at once, with fair deliberation but never with undue haste. He was perfectly certain that a man who always waited until he could do a thing perfectly would not be of much use in many emergencies. That faculty of ready action should not be lost sight of even in the most rigidly academic training. In his opinion it was necessary in medical studies to cultivate the power of observation and to employ mother wit and common sense. Sir John Cockburn considered that every man should learn a trade and he particularly recommended anyone who was at all slovenly to acquire the art of soldering because there was no finer discipline in the world, the slightest mistake in a piece of work necessitating the beginning of the job all over again. Carpentering was good surgical training. It was a terrible thing, he said, for any medical man to learn to handle a saw on the bone of a human being. Sir John Cockburn's favourite trade was bookbinding and he thought he could earn a fair day's wage at that industry. He advocated the study of photography and particularly emphasised the value of acquiring the art of drawing because it educated sympathy between the eye and the hand. In conclusion Sir John Cockburn dwelt upon the advisability of a professional man endeavouring to balance his temperament and quoted Lord Verulam who said that "they be the best chirurgeons which, being learned, incline to the traditions of experience, or, being empirics, incline to the methods of learning."

CONGESTION OF THE FACIAL VEINS AS A DIAGNOSTIC SIGN OF GENERAL PARALYSIS.

IN a recent issue of the *Berliner Klinische Wochenschrift* (Sept. 1st) Dr. E. von Niessl of Leipsic points out that congestion of the facial veins with stasis of circulation is a constant as well as valuable diagnostic sign in the early stages of general paralysis. The areas usually affected are the temples and the eyelids and a moderate degree of cyanosis is readily observed. The eyelids are also the seat of a moderate amount of œdema. The areas involved correspond very accurately with the distribution of the anterior facial and ophthalmic veins and the cyanosis and œdema as thus limited constitute a new diagnostic feature of the disease not as yet mentioned in text-books. Arterial or capillary hyperæmia does not occur. The venous stasis, moreover, lasts for prolonged periods of time. In respect of its duration and of the absence of hyperæmia this symptom seems to be peculiar to general paralysis as contrasted with most other nervous disorders in which circulatory changes in the face may be a symptom. Associated with the cyanosis there is a slight paralysis of the finer facial movements, so that the liveliness and subtlety of the facial expression are blotted out and the aspect tends to be dull and devoid of vivacity. Before accepting entirely the diagnostic significance of the phenomena mentioned it is

[3] THE LANCET, July 26th, 1900, p. 269.

necessary, says Dr. von Niessl, to exclude thoracic diseases such as pleuritis, pericarditis, and cardiac valvular affections, which are capable themselves of giving rise to general cyanosis. Acute lobar pneumonia may produce cyanosis but it is, of course, readily excluded. Coexisting ptosis or other asymmetrical oculo-motor lesions, together with the presence of irregular palsies of the cranial nerves and headache, will make the diagnosis one of cerebral syphilis rather than of general paralysis, as the facial symptoms described occur in both these closely allied affections. Pathologically, Dr. von Niessl finds that a colloid or hyaline degeneration of the arteries with hardening and rigidity of their walls accompanies early stages of general paralysis, as first shown by Recklinghausen and von Leyden and some years later (1889) by Kolschewnikow. The nerve-cells of the cerebral cortex show degenerative changes very early, while the cortical arterioles are surrounded by proliferated connective-tissue cells. A persistent malnutrition of the nerve-cells follows and death is the inevitable result.

THE DISTRIBUTION OF SMALL-POX.

ON Friday, Oct. 17th, there had been no fresh admissions for small-pox to the various hospitals of the Metropolitan Asylums Board since the 15th, and the total number of cases under treatment was only 29. On Monday, the 20th, 1 new case was admitted. No new cases were admitted on Tuesday, the 21st, and at midnight on that date there were only 25 cases under treatment. The Town Clerk of the City of London has issued the following circular to employers from the Public Health Department of the Guildhall:—

In view of the probability of small-pox again appearing in the metropolis during the coming winter, I am desired by the Corporation of London to direct your earnest attention to the absolute necessity for proper protection by revaccination of all persons in your employ. During the late outbreak many were revaccinated in the City of London, and owing to this measure of precaution the number of cases was exceedingly small, in spite of the great risk from the density of population and the large number of "contacts." You are therefore strongly urged to take advantage of the absence of the disease at this time to secure immunity for your staff by revaccination of all who are not efficiently "protected." Application for revaccination should be addressed to the Medical Officer of Health, Public Health Department, Guildhall, or to the Vaccination Officer, 61, Bartholomew-close, E.C.

THE DESTRUCTIVE POWER OF LOW ORGANISMS ON GLASS.

IN an annotation last week we pointed out that water and other fluids sometimes manifest a distinct chemical action upon glass. Pure distilled water showing a neutral reaction will develop after a time an alkaline reaction owing to the alkali in the glass dissolving. At the same time a deposit of silica frequently appears. That glass is not as unassailable against agents which commonly exhibit a disintegrating effect upon other substances would appear to be obvious from the fact that lately it has been found that a peculiar "glass disease" has broken out amongst the windows of York Cathedral. Indeed, it is stated that some of the thirteenth and fourteenth century glass in the edifice has been removed in order to arrest the "disease." The outbreak is ascribed to a fungus, but the exact nature of its attack upon the glass is not described. The glass appears to be perforated to such an extent that portions of the glass yield on the slightest touch. Moreover, the transparency of the glass has to a great extent disappeared—in short, the glass here and there exhibits no longer the properties of glass. It is evident that some kind of chemical action has been established due, perhaps, to the life and habits of a specific fungus. Organisms are known, of course, which assimilate silica, for the vast deposits of pure silica occurring in a very fine state of division in various parts of Germany consist of the scales of extinct diatomaceæ. The minute and beautifully formed spicules of the spongidæ and radiolariæ also consist of pure silica. Some years ago we drew attention to the disintegrating powers possessed by certain species of bacteria which attack even the hardest cement with success. The gradual but sure crumbling of the cement used in water reservoirs has been traced to the operation of countless tiny organisms. The action was at first regarded as being due to the solvent property of carbonic acid and other substances commonly present in water. Under the action of the bacteria the cement slowly resolved into soft mud. The attack is made by the ubiquitous nitrifying organism, the organism which conducts to a large extent the great work of purification throughout nature. The action ceases in the absence of nitrifiable material and the view is that nitrous acid is produced which acts upon the cement lining of the water reservoir. Clearly the destructive potentialities of low forms of life are great both for good and for evil.

CHOLERA IN EGYPT AND ELSEWHERE.

CHOLERA is decreasing in Egypt. The latest return of the Director-General of the Sanitary Department shows the following figures. 819 cases of cholera have been reported during this week against 1571 in the previous one, thus showing a diminution of 752 cases. During the same week 513 have been found dead out of hospital and 259 have died in hospital, against 878 deaths out of hospital and 668 deaths in hospital during the previous week, thus showing a total diminution of 774 deaths. During the same period 11 cases have occurred in Cairo and 65 in Alexandria, against 19 in Cairo and 98 in Alexandria during the previous week. However, the disease has apparently spread from Egypt to the neighbouring country of Syria. At Gaza recent telegrams report that from 30 to 40 deaths occur daily. Our Constantinople correspondent, writing on Oct. 15th, states that uncertainty exists as to the nature of the disease. Some observers call it "pernicious malaria," others "typhus fever," and others "a sickness which has not the characteristic symptoms of cholera." The authorities have decided to send a physician who is an expert in sanitary affairs to report upon the matter. It is quite likely, adds our correspondent, that cholera has been imported from Egypt, for smuggling is rife. Although the Sultan issues stringent orders about the sanitary condition of Syria, yet the local governors do not carry out his orders. Thus the Governor of Bethlehem has purposely broken the pipes for the water-supply, so that although in August that village had a good water-supply it now has none. Cholera is also re[illegible] from Yemen.

EMBOLIC PLEURISY AFTER OPERATIONS.

WE have recently called attention to the little recognised complication of thrombosis of the crural veins after operations which the records of the Johns Hopkins Hospital illustrate.[1] In *American Medicine* of August 2nd appears an important paper, based also on the records of the Johns Hopkins Hospital, on the allied and equally ill-recognised subject of embolic pleurisy after operations. The writer, Dr. G. Brown Miller, finds that from 1890 to 1901 16 cases of pleurisy after operations occurred in the gynæcological department. Cases in which the pleurisy was accompanied by recognised pulmonary tuberculosis are excluded. In at least half of the cases the pleurisy was probably due to pulmonary embolism, the source of which was thrombosis of the pelvic or crural veins. Pulmonary embolism which does not cause rapid death produces hæmorrhagic infarction which usually is accompanied by pleurisy. The pleurisy is seldom diagnosed and is attributed to tuberculosis or

[1] THE LANCET, Oct. 11th, 1902, p. 1005.

rheumatism. The significant symptoms are not appreciated. In most cases there is a friction rub; sometimes there is effusion. After abdominal operations, especially in cases of carcinoma, myoma, large ovarian tumours, and pelvic inflammation, there are conditions favourable to thrombosis in the peripheral veins. The principal of these is feebleness of the circulation, often the result of cardiac degeneration. Pinard has called attention to the value of thoracic symptoms in predicting the occurrence of phlegmasia dolens. He wrote: "When during convalescence after labour there is a stitch in the side think of pulmonary embolism, which is followed in two to eight days by phlegmasia dolens."[2] Dr. Miller gives details of eight cases of pulmonary embolism after such operations as myomectomy, hystero-myomectomy, ovariotomy, vaginal hysterectomy for cancer of the cervix, and perineorrhaphy. It is unnecessary to describe any of these cases, as in the annotation referred to above two cases of post-operative crural thrombosis are related in which there was also pulmonary embolism with its characteristic symptoms. Indeed, one of those cases (Case 2) is now described by Dr. Miller. The treatment of crural thrombosis—rest in bed with the leg elevated—is the prophylaxis of pulmonary embolism. If symptoms of pulmonary embolism occur after labour or an operation the necessity for rest and care is all the greater, lest further, and possibly fatal, embolism may ensue.

PHYSIOLOGICAL REST IN CERTAIN DISEASES OF THE ALIMENTARY CANAL.

DR. A. E. MAYLARD, President of the Glasgow Pathological and Clinical Society, delivered the opening address of the present session on Oct. 13th. He took for his subject "The Value of Rest as affected by Operation in the Treatment of certain Diseases of the Alimentary Canal." Everyone will agree with Dr. Maylard's opening remark that rest is probably the best recuperative agent in effecting repair of tissue, but we do not think that everyone will be ready to carry the doctrine of rest to the ultimate conclusions of Dr. Maylard. As regards the stomach he considers that a gastro-jejunostomy should be performed—

1. In all cases manifesting any unduly prolonged vagueness in the symptoms and in which no permanent good is obtained by ordinary remedial measures.
2. In intractable cases of hyperchlorhydria.
3. In all cases of gastric ulcer.
4. In almost all cases of chronic gastric catarrh.
5. In all inexplicable cases of gastric dilatation.
6. In cases of pyloric obstruction.
7. In cases of recurrent gastric hæmorrhage from whatever cause.

His conclusions as to the remainder of the alimentary tract are as follows:—

1. The œsophagus is given rest by the performance of a gastrostomy. The gastric fistula is one which will close at any time when deemed advisable that it should be allowed to do so.
2. The stomach is given rest by the performance of gastro-jejunostomy. The gastro-jejunal fistula subsequently contracts or remains freely open according to the patency of the pyloric orifice.
3. The colon is given rest by the temporary formation of an artificial anus in the right iliac or lumbar region (a cæcal or right lumbar anus); and
4. The rectum is given rest by the establishment of a temporary artificial anus in the left iliac or lumbar region (a sigmoid or left lumbar anus). In both these last instances the artificial orifice can be closed when considered necessary.

Dr. Maylard has but a poor opinion of the stomach and quotes the case reported by Schlatter to show that the possession of a stomach is not vital to the carrying on of the general human economy. This is, of course, no reason for needlessly depriving a person of the use of his stomach. It cannot be doubted that under the usual dietetic and medicinal treatment at least some cases of gastric ulcer readily recover; it is therefore hardly advisable to perform a gastro-jejunostomy in *every* case of ulceration of the stomach. When, however, the employment of the ordinary treatment of a gastric ulcer for a reasonable time has not been followed by a complete disappearance of the gastric symptoms the performance of a gastro-jejunostomy is fully justified, for the most exact statistics of gastric ulcer go to prove that the percentage of cases which have a fatal ending is very large.

[2] Le Bulletin Médical, May 10th, 1895.

THE INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

THE Eleventh International Congress of Hygiene and Demography will be held at Brussels from Sept. 2nd to 8th, 1903, under the patronage of His Majesty the King of the Belgians. The honorary president is H.R.H. Prince Albert. The president is M. Beco, secretary general of the Ministry of Agriculture, and the general secretary is Dr. Felix Putzeys, professor in the faculty of medicine at the University of Liége. The subscription is 25 francs but the executive committee reserves the right of refusing any demand for admission as a member which does not seem to it to be justified. Ladies who accompany members of the Congress but who have no medical or scientific diploma cannot be admitted as members, but on paying a subscription of 10 francs they will receive certain privileges of the full members. The Congress is to be held in two divisions—namely, (1) hygiene and (2) demography. Division 1 will be subdivided into the following sections: (*a*) bacteriology, microbiology, and parasitology as applied to hygiene; (*b*) alimentary hygiene, including chemical and veterinary science as applied to hygiene; (*c*) sanitary technology, including engineering and architecture as applied to hygiene; (*d*) industrial and professional hygiene; (*e*) hygiene of "transports en commun"—e.g., trains, troopships, emigrant ships, and the like; (*f*) administrative hygiene, prophylaxis of infectious diseases, workmen's dwellings, and infantile hygiene; and (*g*) colonial hygiene. A long list of subjects for discussion has been prepared. Application for admission as a member and for information concerning the museum which will be formed in connexion with the Congress must be made to the general secretary, Dr. F. Putzeys, Rue Forgeur 1, Liége. All applications must be sent in on or before May 1st, 1903.

THE BIRMINGHAM CONSULTATIVE MEDICAL AND SURGICAL INSTITUTION.

THERE lies before us a 60-page pamphlet entitled the "History of the Consultative Medical and Surgical Institution, Birmingham." The circumstances of the inception and failure of this institution will be fresh in our readers' memory, nor need we do more than to refer them to what we said in our issue of May 20th, 1899, p. 1374; June 2nd, 1900, pp. 1595, 1633; and May 18th, 1901, p. 1415, to make clear our opinion of the whole affair. The pamphlet appears to be a manifesto issued with the double purpose of venting the spleen of the defeated promotors against the medical profession and of keeping up the pretence that the Institution is not dead. It ends thus: "How long the selfish attitude of the medical profession in Birmingham will stand in the way of the needs of the people and of the reform of the out-patient department of our hospitals cannot be foretold. Only this is certain, that as soon as properly qualified medical men can be found to undertake the work of the institution it will be started again. The patients are ready and waiting. Those who coöperated before will support the movement again and the success of those who will sooner or later be found willing to serve the institution should be as gratifying to themselves as their services will be valuable to their patients." This is rubbish, and rude rubbish at that. In a letter to the editor of the Birmingham *Daily Post* which was published on May 18th, 1901, and which was signed by eight well-known medical men, it was stated that "the consultants and specialists in Birmingham agree to see any person whose circumstances justify it for the

modified fee of half a guinea upon the recommendation of a medical practitioner, and where this cannot be done for any reason they will dispense with it, only reserving the right to protect themselves against abuse." This offer gave to suitable patients all, and more than all, the advantages held out by the Consultative Institution. The fee was the same, but the patients instead of being treated, whatever was their complaint, by the institution's one employé, were given the chance of being treated by genuine consultant surgeons and physicians possessing special knowledge of particular complaints. Such an institution as the late Birmingham Consultative Medical and Surgical Institution, despite the optimism of the paragraph which we have quoted, will never be a success. The public will quickly find out that they can obtain from the medical profession direct services that the institution can never offer whatever its pretences. No self-respecting medical man will serve people who in their spite at failure do not hesitate to vilify his profession; and a medical man who respects neither himself nor his calling will never make a good medical officer.

THE autumn meeting of the Medico-Psychological Association (South-Eastern Division) will be held, by the courtesy of Dr. T. Seymour Tuke and Mr. C. M. Tuke, at Chiswick House, Duke's-avenue, Chiswick, W., on Wednesday, Oct. 29th. The programme is as follows: 1 to 2 P.M., members invited to luncheon; 2 P.M., meeting of divisional committee: 2 P.M. to 2.45 P.M., inspection of house and grounds; 2.45 P.M., general meeting, when the time and place of the spring meeting of the division will be fixed and the revised rules submitted at Liverpool will be considered. At 7.15 P.M. the members will dine together at the Café Monico, Piccadilly-circus, London, W. Communications should be addressed to the honorary secretary, Dr. Arthur Norman Boycott, Herts County Asylum, Hill End, St. Albans.

THE opening lecture of the winter session at the Hospital for Consumption and Diseases of the Chest, Brompton, will be delivered by Dr. J. Kingston Fowler on Wednesday next, Oct. 29th, at 3 P.M., the subject being the Diagnosis and Treatment of Tuberculous Pleurisy. This course of lectures, notice of which will be found weekly in our Diary, is open to students of the hospital and to all qualified members of the medical profession.

THE Harveian Lectures at the Harveian Society of London, Stafford Rooms, Titchborne-street, Edgware-road, W., will be delivered on Thursdays, Nov. 6th, 13th, and 20th, at 8.30 P.M., by Mr. Alban Doran, on Uterine Fibroids considered from a Clinical and Surgical Standpoint. These lectures are open to all medical men.

A FUND has been started to raise a memorial in Guy's Hospital to the late Dr. J. W. Washbourn. Subscriptions are limited to sums not exceeding two guineas and should be sent to Dr. A. P. Beddard, 44, Seymour-street, London, W.

Lieutenant-Colonel A. M. Davies, R.A.M.C., has been temporarily appointed a member of the Medical Advisory Board vice Major W. Grant Macpherson, R.A.M.C., on special sanitary duty in South Africa.

THE annual distribution of prizes at St. George's Hospital Medical School will be made in the board room of the hospital by Field-Marshal Earl Roberts, K.G., on Thursday next, Oct. 30th, at 3 P.M.

VISION TESTING IN THE SCHOOLS UNDER THE LONDON SCHOOL BOARD.

THE eight ophthalmic surgeons appointed on Feb. 13th and April 24th, 1902, to pay 200 visits to schools for vision testing have set about their task and the following is a short report which they have submitted of work done up to the beginning of the summer vacation (July 23rd, 1902).

REPORT.

The schools were divided into 24 sets and each oculist selected a set to work at.

Note cards were provided on which particulars of the child's name, age, sex, standard, school, vision of the right and left eyes, and treatment advised are recorded. Children found to have subnormal vision are given a green advice card on which treatment is recommended and children with bad vision (less than one-third normal) are given a red advice card to take home in which treatment is strongly advised. On the reverse of each of the advice cards the following general advice is printed, as it is useful in practically all eye troubles of children:—

> You are cautioned against the grave risks children may incur by wearing glasses as prescribed by the various sight-testing establishments, certified opticians, chemists, toy shops, or any other than qualified medical men. In most cases of pustular eye inflammation, irritable or sore eyelids in delicate children, a piece of the ointment, the size of a lentil, in each eye at bedtime will be found of benefit. Any chemist will supply it, of the following composition: Powdered yellow oxide of mercury, three grains; lanolin, two drachms; vaselin to half an ounce.

The oculists analysed the note cards for their own work and sent in a record of each school, showing age, sex, standard, and efficient visual condition of every child examined, bad vision being $\frac{6}{18}$ or worse, fair $\frac{6}{12}$ or $\frac{6}{9}$, and good $\frac{6}{6}$. Owing to the trouble and time in testing the younger children Standards I. and II. were merely inspected for obvious defects and in only one or two schools have they been included by systematic examination. This will be done more completely in the future.

The methods and extent of investigation adopted have varied with the examiner, but in respect to visual acuity, which only we refer to now, the method has been identical. Miss Sayer has also given several sessions to careful testing among six-year-old children in infant departments.

A summary of the results so far obtained shows the proportion of defects to be distributed in different age groups as follows, expressed in percentages:—

Girls (8286).

—	Years of age.							
	6	7	8	9	10	11	12	13 and over.
Numbers noted ...	17	87	499	946	1408	1679	1733	1927
Fair	—	—	29·6	22·6	22·7	20·8	19·8	18·8
Bad	—	—	11·2	11·3	9·8	11·7	10·5	11·5

And for boys, also in percentages:—

Boys (8959).

—	Years of age.							
	6	7	8	9	10	11	12	13 and over
Numbers noted ...	5	69	582	1127	1639	1717	1808	2012
Fair	—	—	24·0	17·5	17·0	14·2	13·9	13·2
Bad	—	—	9·3	7·2	8·0	7·4	8·2	8·0

When classified not according to ages as above, but according to their standards, the following tables summarise the results:—

Girls.

	Standards.						
	I.	II.	III.	IV.	V.	VI.	VII.
Numbers	432	864	1910	1901	1562	952	675
Fair	28·9	26·2	24·3	26·0	18·7	17·7	12·6
Bad	13·8	14·4	10·2	11·5	10·6	8·6	11·5

Boys.

	Standards.						
	I.	II.	III.	IV.	V.	VI.	VII.
Numbers	456	892	2312	1814	1678	1079	728
Fair...	23·0	22·6	14·8	14·5	11·8	10·7	9·2
Bad...	10·0	8·4	7·3	7·7	7·4	8·7	7·1

Serious visual defect may therefore be said to be present in 8 per cent. of the boys and 11 per cent. of the girls and to maintain about this proportion through school life.

With the numbers here dealt with, a more minute analysis is scarcely justifiable, but on looking over the results of different groups of schools it may be said that the percentage with visual defect varies enormously, being small in the better class districts and greater among the poorer. It is also greatly influenced for the worse by the presence of children of foreign parentage.

Certain points are suggested as to the effect of eye work (e.g., sewing among girls, and habits of near working induced by the academic methods still prevalent in many infant schools) to which the oculists' attention will be directed in future, and also to filling up sufficiently the gap in our information regarding younger children.

The report deals with 17,245 children whose visions have now been recorded. At first the rate of work was somewhat slow but the ophthalmic surgeons say that it will be quicker from experience gained. In 200 sessions from each ophthalmic surgeon, at the present rate of work, about 70,000 children will be examined. It will therefore take, they estimate, nearly five years to examine all the children. The institution of an annual examination for all the children will be scarcely necessary, but when a fuller report, based on the work done up to the end of this year, can be submitted, the best method of practical supervision can be discussed with a good basis of information as a guide.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on Oct. 16th, Sir HENRY G. HOWSE, the President, being in the chair.

Mr C. H. Golding-Bird was introduced and having made a declaration in the terms of the oath prescribed by the Charter of 1800 was re-admitted a member of the Court of Examiners.

Mr. W. H. Power was admitted a Fellow under the regulation relating to Members of 20 years' standing.

A letter was read from Señor Sol Rubio de Gro del Busto announcing the death on August 31st, of his father, Dr. Federico Rubio y Gali of Madrid, Honorary Fellow of the College. The PRESIDENT stated that he had written to Señor Sol Rubio de Gro to express the sympathy and condolence of the Council.

The PRESIDENT reported that, in accordance with the wishes of the Council, he had attended, as the delegate of the College, the commemoration at Oxford on Oct. 8th and 9th of the 300th anniversary of the opening of the Bodleian Library, and that, on behalf of the Council, he had presented an address of congratulation to the University.

It was resolved that Vol. II. of the Catalogue of the Physiological Series of Comparative Anatomy should be offered for sale at 12s. per copy.

The PRESIDENT reported that since the meeting of the Museum Committee he had authorised the purchase of the skull of an extinct rhinoceros discovered in Siberia.

The Council congratulated Professor C. Stewart on his restoration to health.

Mr. T. BRYANT, as chairman of the committee on the annual report of the Council, submitted a draft copy of the report to be presented to the Fellows and Members at the annual meeting to be held on Nov. 20th, 1902.

The report was approved.

Mr. Edmund Owen was elected a member of the Committee of Management in the vacancy occasioned by the retirement of Mr. T. Pickering Pick. Mr. W. Watson Cheyne, C.B., was re-elected a member of the Laboratories Committee.

The Council nominated as the tenth Jenks scholar Mr. John Webster Bride, formerly of Epsom College and now of the Owens College, Manchester.

Mr. A. Pearce Gould was elected a member of the Board of Examiners in Dental Surgery, in the vacancy occasioned by the retirement of Mr. R. J. Godlee.

The Council resolved in substance "that a Member of the College should be called on to show cause why he should not be removed from being a Member of the College on account of disgraceful conduct in a professional respect."

Sir ALFRED COOPER presented a report upon the Second International Conference in reference to Syphilis and Venereal Diseases held in Brussels in September, and the best thanks of the Council were given to him for representing the College at the Conference.

A letter was read from the Registrar of the General Medical Council forwarding copies of a report by the Visitor-Inspector of that Council upon the examinations in chemistry, physics, and biology of the Conjoint Examining Board, and requesting to be furnished with such remarks thereon as the proper authorities might wish to make for report to the General Medical Council by its Examination Committee. The letter was referred to the Committee of Management.

A letter was read from the Clerk of the Privy Council forwarding, by direction of the Lord President, a copy of the Midwives Act, 1902, and requesting the College to appoint a member of the Central Midwives Board in accordance with Section 3 of the Act. Dr. J. Ward Cousins was appointed.

Mr. T. Bryant was re-nominated as a member of the council of University College, Bristol.

A letter was read from the Secretary of the Council of the Owens College, Manchester, expressing the thanks of that council for the permission accorded to them to have casts taken of the busts of Sir Charles Bell, Sir Astley Cooper, and John Abernethy.

THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS.

WEST RIDING OF YORKSHIRE.

A MEETING was convened by the sanitary committee of the West Riding county council at Leeds on Oct. 17th for the purpose of considering the serious mortality in the West Riding due to consumption and the measures necessary for its limitation. There was a large gathering of members, clerks, and medical officers of a great number of urban and rural district councils throughout the Riding. Mr. C. G. Milnes Gaskell, chairman of the county council, presided, and in the course of the speech with which he opened the proceedings said that of the questions at present before the country none was so pressing as the establishment of a Department of Health.—Dr. J. R. Kaye, the West Riding medical officer of health in a paper on the Duty of Local Authorities, said that the sanitary authorities of the West Riding had long been observant of the havoc which was worked by tuberculosis in its various forms and he knew that many of them were eager to adopt any rational means of combating the ravages of consumption. In England and Wales some 40,000 deaths occurred annually from consumption of the lungs (chiefly young adults), while the corresponding figure for the West Riding administrative county was from 1500 to 2000 deaths per annum. There was great encouragement, however, to be found in a comparison of the present returns with those of past years. The

death-rate from phthisis in the administrative county of Yorkshire during 1901 was the lowest on record and a 10 years' retrospect clearly showed that a steady decline was going on, while 20 years ago the death-rate due to consumption was twice what it was to-day. The corner-stones upon which future work must be based were the following five accepted truths—namely, (1) the disease is of germ origin; (2) it is communicable; (3) it is not hereditary; (4) it is preventable; and (5) it is curable. With these points before them, he asked, what was the duty of local sanitary authorities in the matter? Much had been accomplished in the direction of improving the general sanitary surroundings of the people and the fruits of this work were seen in the declining death-rate from consumption. In encouraging and carrying out the disinfection of rooms and materials infected by phthisical patients every sanitary authority had a duty to perform. Indiscriminate spitting ought to be prevented. Dr. Kaye thought that much might be done by a system of voluntary notification and by quiet, systematic work on the part of the various sanitary officials in each district. The general improvement of house accommodation must also exert a powerful influence on tuberculosis. The West Riding county council had now established a bacteriological laboratory in which the sputum of any patient in the Riding might be examined free of charge. With regard to the curative results of sanatorium treatment it might be expected, he said, that something like 25 per cent. of the patients would recover and some 40 per cent. would be so improved as to return to work, leaving about 35 per cent. of cases which, owing to various superadded conditions, would not respond satisfactorily to the treatment. Dr. Kaye looked with disfavour upon the erection of sanatoriums in various parts by groups of districts. His scheme was that the county council should erect and equip in some part of the Riding an institution to which patients from any of the districts in the Riding should be admitted upon terms and in the order to be settled by the committee of management.

Mr. H. H. Waller, of Brighouse, proposed a motion—

That urgent need exists for speedy action to prevent or restrict the ravages of the disease—

which was seconded by Mr. G. W. L. Fernandes, of Wakefield, on condition that it was so altered as to make it read that the meeting recommended the council to take the steps indicated in Dr. Kaye's paper. The motion was accordingly amended and was thereupon carried unanimously.

OLDBURY.

On Oct. 15th a meeting was held at the town hall, Oldbury, for the purpose of considering the question of providing beds for Oldbury patients in the proposed sanatorium for consumption for Worcestershire. Mr. W. T. Davies presided and amongst those present were Mr. J. W. Wilson, M.P., Mr. W. A. Allright, Mr. G. E. Wilson, Mr. C. Thomlinson, Mr. G. H. Fosbroke (county medical officer), Dr. H. Dixey (Malvern), Mr. L. C. S. Broughton, Mr. C. H. Sharpe, and Mr. G. B. Buttery.—Mr. Allright delivered an address in the course of which he mentioned that the treatment of the disease in Germany had shown to them that it was not incurable. He appealed for the hearty support of the people of Oldbury to the scheme.—Dr. Dixey also addressed the gathering and explained that the object of the committee was to provide 16 beds at the sanatorium in course of erection at Knightwick and the accommodation could be increased according to the funds raised. He hoped that in a very short time the accommodation would be increased to 40 beds, for they were urgently needed. He pointed out that Mr. Allright and Mr. Wilson of the Oldbury Phosphorus Works, in addition to contributing largely to the funds for providing the sanatorium, had generously undertaken to defray the cost of one free bed to be used by patients from Oldbury.—Mr. Thomlinson moved:—

That this meeting of Oldbury residents and ratepayers, being convinced of the desirability of supporting the Worcestershire Consumption Sanatorium, and of securing beds for the reception of Oldbury patients there, do appoint a committee to collect subscriptions annually to be applied towards the cost of maintaining a bed or beds for the reception of Oldbury patients.

This was carried unanimously. Mr. Allright was elected treasurer of the committee thus appointed.

DEVON AND CORNWALL.

At the meeting of the sanitary committee of the Cornwall county council held on Oct. 16th it was decided to recommend the county council to support the scheme for the establishing of a sanatorium at Didworthy for consumptive patients of Devon and Cornwall, and, provided it can be legally done, to vote £500 for the building fund and to give a yearly subscription of £150 for the support of two beds. The committee in its resolution states its hope that in the event of another such institution being established for the two counties the site would be in Cornwall.

Looking Back.

FROM

THE LANCET, *SATURDAY, OCTOBER 23*, 1824.

WESTMINSTER HOSPITAL.

I have always observed[1] that the mind of a young man has a tragic turn, if I may so express myself; that he is fond of running about after operations, often performed as a last resource, and frequently unjustifiable in themselves, instead of attending to the more useful, but less striking surgical cases of every day occurrence. This mode of proceeding is one which produces very little benefit to a medical man as an operator, and often great evil as a general practitioner; for it causes him to lose his time by attending to them, and also makes him neglect those cases from which much knowledge may be gained, but which he passes over as things either useless in themselves, or which may be learnt at any time when he is in practice in the country.

Operations, indeed, are but seldom wanted in general practice; not one man in twenty living in the country ever performs them, and even in town, unless a man is an hospital surgeon, they very rarely fall under his care. A very eminent surgeon of London, a man of very large practice, of great experience and no less ability, told me before his death, that he had *never* performed an amputation, and only *one* cancerous breast, in his whole life, had he extirpated.

Those things to which I would have you pay particular attention, are of general use, and of frequent occurrence, for, on them the surgical fame and fortune of most of you must be founded; come down to the hospital and examine the patients yourselves, and you may be certain of gaining the advantage of it.

In a former number of the Lancet, it is mentioned, that public consultations, upon the propriety of operating, were first instituted by Sir Astley Cooper, at the Borough Hospital; this, however, we beg to state, is incorrect, for the public consultations, on such occasions, were *first* introduced at the *Westminster Hospital*, and by *Sir Anthony Carlisle*.

LITERARY INTELLIGENCE.—MESSRS. W. B. Saunders and Co. announce for early publication the following new books: "Diseases of the Pancreas and their Surgical Treatment," by A. W. Mayo Robson, F.R.C.S. Eng., senior surgeon, Leeds General Infirmary, and B. G. A. Moynihan, M.S. Lond., F.R.C.S. Eng., assistant surgeon, Leeds General Infirmary (octavo volume, 394 pages, illustrated); "The Elements of Bacteriological Technique—a Laboratory Guide for the Medical, Dental, and Technical Student," by J. W. H. Eyre, M.D., M.S. Durh., F.R.S. Edin., bacteriologist to Guy's Hospital, London, and lecturer on bacteriology in the medical and dental schools (octavo volume, 372 pages, with 170 illustrations); "A Text-book of Surgical Principles and Surgical Diseases of the Face, Mouth, and Jaws, for Dental Students," by H. Horace Grant, A.M., M.D., professor of oral surgery, Louisville College of Dentistry (octavo volume, 225 pages, with 60 illustrations); and also the "Treatment of Fractures," by Charles L. Scudder, M.D., Harvard Medical School (third edition, revised and enlarged, octavo volume, 480 pages, with 645 original illustrations).

[1] Some remarks addressed by Sir Anthony Carlisle to the pupils at Westminster Hospital on October 16, 1824.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of Manchester.—Dr. J. Niven's report on the health of the people of Manchester during 1901 is a valuable one. Although parts of it have mainly local interest there is much which will appeal to the student of epidemiology and statistics. There was an altogether remarkable drop in the local birth-rate during 1901, such a drop as could neither be satisfactorily explained by depression of trade nor by the absence of a large number of men at the seat of war. This marked drop was not general throughout the country but was confined to certain towns, such as Manchester, Liverpool, and Salford. For a long time the phenomenon baffled investigation but finally Dr. Niven applied himself to an inquiry as to how far a theory of the drop being due to the outburst of arsenical poisoning in 1900 would fit in with the facts. In conducting this inquiry Dr. Niven followed the plan adopted by Dr. G. S. Buchanan in his admirable report on arsenical poisoning and Dr. Niven concluded that the outbreak in question offered the best explanation of the drop in the birth-rate. It is instructive to note that in the first quarter of 1902 the birth-rates of Manchester, Salford, and Liverpool resumed what may be termed their normal level. The matter has, we believe, been more fully gone into by the Royal Commission on Arsenical Poisoning. There was but one case of small-pox in Manchester during 1901, but Dr. Niven, in discussing the precautions which would be taken were the disease to invade the city, points out that in respect of common lodging-houses the sanitary authority has recently paid the remaining inmates £1 a week each for a fortnight on condition that they submit to re-vaccination and stay in the lodging-house. Dr. Niven thinks that the administration of the Vaccination Acts should be transferred from the guardians to the sanitary authority and that revaccination should be compulsory in all houses in which a case of small-pox has occurred. He is, however, clearly in favour of introducing a conscience clause into any measure aiming at general revaccination. We expect that it will be much upon these lines that legislative powers will be shortly sought. Dr. Niven has gone deeply into the question of the advantages to be gained by isolation hospital accommodation and he interprets his results as showing a decided advantage in favour of the hospital system. All those interested in the isolation controversy should read this portion of the report. The crusade against pulmonary tuberculosis in Manchester continues, Dr. Niven tells us, with "unabated vigour" and "there is no department of public health work in which the value of administrative action is so apparent as in this." Certainly the administrative machinery in this particular is a very thorough one. Dr. Niven ascribes the excessive mortality from pulmonary tuberculosis of persons employed in public-houses to the habit of spitting upon the floors, and he thinks that the special liability of intemperate men and women to such tuberculosis is due partly to their greater exposure to infection in public-houses and partly to the fact that the drinkers' catarrh from which they suffer predisposes to tuberculous infection. Dr. Niven possesses one great advantage in his etiological investigations at Manchester—namely, that he is able to rely upon the work of his highly trained medical assistants rather than upon the often somewhat vague generalisations of the sanitary inspector. Although only about a third of the total number of cases of pulmonary tuberculosis are notified such cases are those the circumstances of which most require supervision and in connexion with which the precautions employed are of the greatest avail. The consideration of the sanitary committee is now being devoted to the question of providing accommodation for advanced cases of pulmonary tuberculosis which are housed in the poorer parts of the city. Additional attention is also being directed to factories and workshops, as also to public-houses. Dr. James Beatty, one of the assistant medical officers of health, contributes to the annual report a valuable series of notes embracing a summary of cases in which the evidence pointed to sources of infection. There is one pregnant sentence in this part of the report in which Dr. Beatty observes: "In the smaller common lodging-houses, so impressed are the keepers with the infectiousness of phthisis, or so much annoyed are they with the constant recurrences of disinfection, that many declare their determination to admit no one into their house who suffers from a cough." Numerous instances are given in which the evidence points to infection having been contracted by living in the same house as consumptive patients or by living in houses next to those occupied by such patients. Instances of proximity to tuberculous fellow-workmen as a probable source of infection are furnished and even attendance at church is brought under grave suspicion. The list is indeed a formidable one and it bears evidence of an enormous amount of close work. Much instructive information is also embodied in the Manchester report upon bacteriological examinations in diphtheria and upon work under the Manchester milk clauses.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8399 births and 4969 deaths were registered during the week ending Oct. 18th. The annual rate of mortality in these towns, which had been 17·6, 17·0, and 18·1 per 1000 in the three preceding weeks, declined again to 17·4 per 1000 last week. In London the death-rate was 17·0 per 1000, while it averaged 17·6 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 2·6 in Hornsey, 4·8 in Grimsby, 6·3 in Hastings, 8·6 in Leyton and in Aston Manor, 9·2 in Southampton, and 9·8 in Tottenham; the highest rates were 23·0 in Oldham, 23·4 in Preston, 23·6 in Merthyr Tydfil, 23·7 in Liverpool and in Wigan, 24·7 in South Shields, and 25·1 in Middlesbrough. The 4969 deaths in these towns last week included 682 which were referred to the principal infectious diseases, against 907 and 806 in the two preceding weeks; of these 682 deaths 278 resulted from diarrhœa, 137 from measles, 69 from "fever" (principally enteric), 68 from diphtheria, 67 from scarlet fever, 61 from whooping-cough, and two from small-pox. No death from any of these diseases was registered last week in Bournemouth, Plymouth, Burton-on-Trent, King's Norton, or Rochdale; while they caused the highest death-rates in Ipswich, Bristol, Hanley, Bootle, Burnley, Preston, Middlesbrough, and South Shields. The greatest proportional mortality from measles occurred in Bristol, Hanley, Handsworth, Smethwick, Bootle, South Shields, Newcastle-on-Tyne, and Cardiff; from scarlet fever in West Bromwich, Burnley, and Huddersfield; from diphtheria in Leyton and Hanley; from whooping-cough in Warrington and Merthyr Tydfil; from "fever" in Ipswich and Birkenhead; and from diarrhœa in West Ham, Ipswich, Wolverhampton, Birmingham, Birkenhead, Burnley, and Sunderland. One fatal case of small-pox was registered in Walthamstow, and one in Bristol, but not one in any other of the 76 large towns. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been 42, 34, and 31 in the three preceding weeks, had further declined to 28 at the end of last week; four new cases were admitted during the week, against four, four, and two in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday, Oct. 18th, was 2871, against 2703, 2749, and 2811 on the three preceding Saturdays; 362 new cases were admitted during last week, against 378, 366, and 389 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 148, 167, and 272 in the three preceding weeks, declined again last week to 251 and were nine below the corrected average number. The causes of 61, or 1·2 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Bradford, Leeds, and in 44 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Bury, Sheffield, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal

Scotch towns, which had been 16·6 and 15·4 per 1000 in the two preceding weeks, rose again to 18·0 per 1000 during the week ending Oct. 18th, and exceeded by 0·6 per 1000 the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 8·6 in Leith and 15·5 in Aberdeen to 19·3 in Glasgow and 30·1 in Paisley. The 581 deaths in these towns included 24 which were referred to diarrhœa, 11 to whooping-cough, eight to scarlet fever, eight to diphtheria, three to "fever," and two to measles. In all, 56 deaths resulted from these principal infectious diseases last week, against 56 and 48 in the two preceding weeks. These 56 deaths were equal to an annual rate of 1·7 per 1000, which was 0·7 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 31 and 19 in the two preceding weeks, rose again last week to 24, of which 13 were registered in Glasgow, four in Dundee, three in Paisley, and two in Edinburgh. The deaths from whooping-cough, which had been seven, eight, and 12 in the three preceding weeks, declined again to 11 last week, and included five in Glasgow and three in Edinburgh. The fatal cases of scarlet fever, which had been six and five in the two preceding weeks, rose again last week to eight and included four in Glasgow and two in Paisley. The deaths from diphtheria, which had been two, four, and five in the three preceding weeks, further increased last week to eight, of which five occurred in Glasgow and two in Greenock. The three fatal cases of "fever" corresponded with the number in the preceding week, and included two in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 152 and 121 in the two preceding weeks, rose again last week to 139 and were 14 in excess of the number in the corresponding period of last year. The causes of 18, or more 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·7 and 24·8 per 1000 in the two preceding weeks, further rose to 26·8 per 1000 during the week ending Oct. 18th. During the past four weeks the death-rate has averaged 25·7 per 1000, the rates during the same period being 16·9 in London and 14·9 in Edinburgh. The 195 deaths of persons belonging to Dublin registered during the week under notice showed an excess of 15 over the number in the preceding week, and included 35 which were referred to the principal infectious diseases, against 45, 38, and 34 in the two preceding weeks; of these, 19 resulted from measles, 11 from diarrhœa, two from scarlet fever, and one each from diphtheria, from whooping-cough, and from enteric fever. These 35 deaths were equal to an annual rate of 4·8 per 1000, the death-rates last week from the same diseases being 1·9 in London and 1·3 in Edinburgh. The fatal cases of measles, which had been 10, eight, and 11 in the three preceding weeks, further rose last week to 19. The deaths from diarrhœa, which had been 19, 13, and 17 in the three preceding weeks, further declined to 11 last week. The mortality from scarlet fever corresponded with that in the preceding week. The 195 deaths in Dublin last week included 53 of children under one year of age and 39 of persons aged upwards of 60 years; the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a large excess. Eight inquest cases and six deaths from violence were registered; and 57, or nearly one-third, of the deaths occurred in public institutions. The causes of five, or nearly 3 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Surgeon Rowland Arthur Kirby has been allowed to withdraw from His Majesty's Naval Service with a gratuity. Dated Oct. 16th, 1902.

The following appointments are notified:—Fleet Surgeons: G. S. Smith to the *Pembroke;* F. A. Jeans to R.M.A. Infirmary, Portsmouth; and H. X. Browne to the *Russillica.* Staff-Surgeons; W. E. Home to the *Grafton* for Esquimalt Hospital; G. Hewlett to the *Galatea;* and H. W. A. Burke to the *Bacchante.* Surgeons: H. S. Burniston to the *Bacchante;* F. C. Stearn to the *Duke of Wellington* for Portsmouth Dockyard; and J. Boyan to the *Vernon* for the *Jascur.*

ARMY MEDICAL SERVICE.

The King has been graciously pleased to give orders for the following promotions to the undermentioned officers on retired pay in recognition of their services during the operations in South Africa. To bear date Oct. 18th, 1902. Lieutenant-Colonels to be Colonels:—H. F. Hensman, C.M.G., F. Howard, W. Johnston, M. Knox, and Honorary Deputy Surgeon-General A. S. K. Prescott.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Lewis Haywood retires on retired pay. Dated Oct. 22nd, 1902. Captain R. S. Rodger is placed on temporary half-pay on account of ill-health. Dated August 24th, 1092.

INDIA AND THE INDIAN MEDICAL SERVICES.

The King has approved of the following promotions among the officers of the Indian Medical Service:—To be Surgeon-General. *Bengal Establishment:* Colonel Adam Scott Reid. Dated June 16th, 1902. To be Colonel. *Bengal Establishment:* Lieutenant-Colonel John McConaghey. Dated June 16th, 1902. To be Lieutenants (dated Jan. 29th, 1902): Thomas Henry Gloster, Herbert Henry George Knapp, James Henry Horton, William Adolphus Justice, Frederick Adolphus Fleming Barnardo, James McPherson, George Denne Franklin, John Henry Gill, Francis Wheler Sime, Charles Aikman Gourlay, William Charles Ross, Robert Archer Lloyd, John Conrad Gie Kunhardt, Ernest Alexander Walker, Lewis Cook, Leonard Badley Scott, John Hewett Ferris, Gerard Irvine Davys, Herbert Hallilay, George Cook Irvine Robertson, Alfred John Vernon Betts, Frederick Ernest Wilson, Walter Scott Patton, William Leigh Trafford, Behramji Barjorji Paymaster, Norman Walter Mackworth, Henry Ross, John Forrest, Howard Crossle, Leonard Hirsch, Lawrance Rundall, Edward Charles Cecil Maunsell, Herbert Ernest Jardine Batty, John Warwick Illius, Daniel Stanislaus Aloysius O'Keefe, and John Philip Cameron.

The King has also approved of the retirement from the service of the under-mentioned officers: Lieutenant-Colonel Bernard Doyle, Bengal Establishment. Dated July 30th, 1902. Major Thomas Charles Moore, Madras Establishment. Dated Dec. 18th, 1902.

The retirement of Lieutenant-Colonel J. K. Kanga, Madras Establishment, has effect from Dec. 18th, 1901.

IMPERIAL YEOMANRY.

The undermentioned officer resigns his commission and receives a new commission subject to the provisions of the Militia and Yeomanry Act, 1901, retaining his present rank and seniority, viz.:—

Westmoreland and Cumberland: Surgeon-Captain J. E. Bowser.

ROYAL ARMY MEDICAL CORPS (MILITIA).

George Lane to be Lieutenant and to be seconded whilst serving under the Foreign Office. Dated Sept. 30th, 1902.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major S. B. Mason to be Surgeon-Lieutenant-Colonel. Dated Oct. 22nd, 1902.

Surgeon-Lieutenant George Robert Livingston, 3rd Volunteer Battalion the King's Own Scottish Borderers, to be Surgeon-Lieutenant. Dated Oct. 22nd, 1902.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Hampshire: Harold Frederick Bassano to be Surgeon-Lieutenant. Dated Oct. 18th, 1902. 1st Lanarkshire: Captain E. W. S. Brooke, Royal Field Artillery, to be adjutant, vice Captain A. F. S. Scott, Royal Garrison Artillery, whose tenure has expired. Dated Sept. 3rd, 1902.

Rifle: 1st Volunteer Battalion the Prince of Wales's Volunteers (South Lancashire Regiment): Surgeon-Captain J. Adams to be Surgeon-Major. Dated Oct. 18th, 1902. 2nd Volunteer Battalion the Gordon Highlanders: Surgeon-Lieutenant A. Fowler to be Surgeon-Captain. Dated Oct. 18th, 1902.

VOLUNTEER INFANTRY BRIGADES.

The undermentioned officers are borne as supernumerary

in their respective units whilst serving with the Bearer Company of the Highland Light Infantry Volunteer Infantry Brigade—viz.: 1st Volunteer Battalion the Highland Light Infantry: Surgeon-Captain P. F. Shaw. Dated Oct. 18th, 1902. 3rd (The Blythswood) Volunteer Battalion the Highland Light Infantry: Surgeon-Major A. D. Moffat. Dated Oct. 18th, 1902. 5th (Glasgow Highland) Volunteer Battalion the Highland Light Infantry: Surgeon-Major Q. Chalmers (whilst in command). Dated Oct. 18th, 1902.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY.

Worcester and Warwick: Surgeon-Captain W. P. Whitcombe, from the 1st Volunteer Battalion the Royal Warwickshire Regiment, to be Surgeon-Captain, and to command under paragraph 55A Volunteer Regulations. Dated Oct. 18th, 1902.

The undermentioned Surgeon-Lieutenants, from the 1st Volunteer Battalion the Royal Warwickshire Regiment, to be Surgeon-Lieutenants, viz.: A. H. McDougall (dated Oct. 18th, 1902) and A. R. Badger (dated Oct. 18th, 1902).

SURGEONS FOR TEMPORARY SERVICE IN THE ROYAL NAVY.

Surgeons who may be temporarily employed in the Royal Navy to meet the requirements of the service will be appointed under the following regulations. They are "to be registered under the Medical Act as qualified to practise medicine and surgery in Great Britain and Ireland, to produce certificates of good character, and to be reported physically fit after medical examination. Their age is not to exceed 40 years." The rate of full pay is 22*s.* a day, or £401 10*s.* a year; half pay, 10*s.* a day, or £182 10*s.* a year. Half pay is for sickness and extra leave only. They will be granted 30 days' advance of pay on joining a ship after appointment, and receive the same allowances as are payable to permanent officers of their rank. Lodging money at the rate of £50 a year will usually be allowed when employed on shore without quarters in the United Kingdom and £24 a year in lieu of rations. In cases, however, of temporary employment on shore, the lodging and provision allowances will be at the rate of 3*s.* 6*d.* and 1*s.* 6*d.* per day respectively. If quarters are provided in a medical establishment an allowance will be granted in lieu of provisions for self and servant, and for fuel and lights at the rate of £39 a year in the United Kingdom and £108 a year abroad.

Each surgeon must provide himself with the following: Frock coat, waistcoat, and trousers, undress coat, uniform cap, mess jacket and waistcoat, and sword and undress belt. To cover the cost of these articles each officer accepted for service will receive an equipment allowance of £20 (payable on the officer's being called up for active service). The following instruments must be provided by the surgeon: a pocket case of instruments, a stethoscope, and three clinical thermometers.

Surgeons will be allowed, when attached to ships in commission, the ordinary ship's rations; but will have to pay about 2*s.* a day towards the maintenance of their mess as wardroom officers.

In the event of surgeons engaged for temporary service being wounded in His Majesty's service, gratuities or pensions, varying in amount according to the injuries sustained, will be granted on the basis of the awards in similar cases of naval officers. Should temporary service surgeons be killed in action, die within six months of wounds received in action, or meet their deaths by acts of the enemy, pensions and allowances will be granted to their widows and children, &c.

The conditions of service are as follows: "To engage for six months certain, but the liability to serve will be limited to five years. To serve when and where required from the date of signing the declaration. To be liable to immediate discharge for misconduct or incompetency. To rank with, but after, surgeons in the permanent service. To be under the general rules of the service as regards discipline, &c. To receive two calendar months' notice of services being no longer required. To be granted a gratuity of two calendar months' pay on discharge, if not discharged for misconduct or incompetency." Voluntary resignation of appointment will be allowed subject to the convenience of the service, but the gratuity of two calendar months' pay on discharge will be thereby forfeited. Copies of the regulations with forms of declaration can be obtained from the Medical Department of the Navy.

THE MEDICAL PROFESSION IN RELATION TO THE ARMY.

We have in our leading columns dealt with Sir William Taylor's address on this subject but we may usefully refer to a few points here. From the humanitarian side of the question, with which bodies organised for the relief of the sick and wounded in war are mainly concerned, these associations are in other countries closely connected with their respective governments or, as in Germany, directly allied with the War Office. In some countries—Germany, Austria, France, and Italy for example—they are Leagues of Mercy for times of peace as well as of war. In the late war in South Africa the Red Cross societies did admirable work in harmonious and helpful association with the regular Army Medical Service. Whether any changes of organisation in view of bringing them together in still closer union are desirable is perhaps worth consideration. We are glad to notice that the reorganisation of the Army Medical Service is, as we held to be the case, spoken of as meant to be a continuous process. With regard to the present constitution of the Royal Army Medical Corps the differentiation of the various duties discharged by the men of that corps into what may be termed indoor and outdoor occupations is good. It is in ward duties and as hospital cooks that more training is required. The less there is of purely military training—drills and so forth—and the more training in all the duties of attendants on the sick the better, we should say. We are glad to observe that the tone and tendency of the Director-General's address are to ignore petty details and to lift the Army Medical Service out of the rut of commonplace criticism. It is, of course, essential that the position of the medical officer should be an assured one and that he should not be called upon to fight about this or about the pay to which his work and responsibilities fairly entitle him. But, after all, it is as a scientific branch of the service and upon its labours and proved efficiency in war that we hope the Army Medical Service will always rest its claims to public regard and distinction.

AMBULANCE DOGS AT NETLEY.

Under the above heading an article appears in the *Army and Navy Gazette* of Oct. 18th, giving an interesting description of an experimental trial of trained dogs for the purpose of searching for concealed wounded and missing soldiers during time of war. The dogs used were trained by Major H. Richardson, F.Z.S., and they were taught to bark on finding a supposed wounded man. The trials took place at Netley on August 5th and 6th last. On the first occasion a strong bearer company was marched off to some suitable ground previously selected for the experiment and a number of the men were told off as casualties and ordered to hide themselves in the scrub and grass. The dogs were successful in recovering all the pretended casualties, numbering 21. On the second day the trial took place in the presence of Surgeon-General Townsend, R.A.M.C., commanding at Netley, and his staff, Colonel Treherne, and a number of officers and spectators. This trial was one constantly practised at the German manœuvres and was a severe test. A number of men were hidden in a wood with thick undergrowth giving complete cover. Entering the wood the dogs worked the edge carefully, recovering four men hidden in the undergrowth and discovered by the dogs' noses. They quickly discovered two more and, finally, two men in the high grass. The dogs on both occasions found every casualty in a short time, their scenting powers and acute hearing giving them an enormous advantage over a man. Each dog is provided with a saddle on which are placed a barrel (containing two gills of stimulant) and bandages for the wounded man to make use of. The dogs of Mount St. Bernard have been doing their well-known work for over 200 years, but the employment of dogs for military purposes is comparatively new. The German Jäger battalions had 24 trained animals with them in the late China expedition and their utility for ambulance work is being also recognised in the armies of other foreign Powers.

THE USE OF SPECTACLES IN THE ARMY.

It seems that we are henceforth to become accustomed to what has hitherto been a rare sight in the army—namely, spectacled soldiers. From a paragraph in the *Army and Navy Gazette* of Oct. 18th we learn that it has been proposed to issue spectacles to such soldiers of the British and native troops serving in India as may require them to correct defects of vision. Medical officers have, our service contemporary understands, been called upon to report how many men will require glasses and the probable cost per annum involved thereby. Meanwhile, in order to carry out these instructions the optical means for testing the vision of British

and native soldiers in India will presumably have to be issued.

IMPERIAL YEOMANRY HOSPITALS.

Members of the staffs of the Imperial Yeomanry Hospitals who served in South Africa between Jan. 1st, 1901, and May 31st, 1902, are requested by the Imperial Yeomanry Hospitals Fund Committee to send their present addresses and the dates of the commencement and termination of their services in these hospitals to Mr. Oliver Williams, 116, Victoria-street, Westminster, London, S.W. The particulars given are to be compared with the entries on the medal rolls now being prepared by the commanding officers of the hospitals in connexion with the issue of the King's medal and clasps under the special Army Order of Sept. 29th, 1902.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

A church parade of the London Companies of the Royal Army Medical Corps (Volunteers) will take place at the church of St. Bartholomew the Great, Smithfield, E.C., on Sunday, Oct. 26th, at 3 P.M. After the service, which will be conducted by the Rev. Sir Borrodaile Savory, M.A., rector of the parish and acting chaplain to the London companies of the Royal Army Medical Corps (Volunteers), a tablet in memory of those men of the corps who have died while on service in South Africa will be unveiled by Surgeon-General W. Taylor, K.C.B., K.H.P., Director-General of the Army Medical Service.

THE MEDICAL ARRANGEMENTS FOR THE ROYAL PROCESSION THROUGH LONDON.

At the Cattle Market, Islington, at the Surrey Sessions House, and at Olympia there will be stationed field hospitals, each of 25 beds, while at the Tower of London there will be a detention hospital of 10 beds which will also be used as a temporary field hospital. Along the line of route there will be 16 ambulance stations and 109 stretcher squads will be formed at various points. Colonel W. L. Gubbins has general charge of the medical service.

THE MEDICAL STAFF COLLEGE.

On the conclusion of the first session of the Medical Staff College in London, the lieutenants-on-probation for the Indian Medical Service will proceed to Netley for duty, where they will receive instruction in military medicine and surgery and in squad and company drill. They will also take part in the ward duties of the Royal Victoria Hospital and there receive clinical instruction. They are to arrive at Netley on Nov. 3rd. The course at Netley will occupy two months.

Correspondence.

"Audi alteram partem."

OVARIAN TUMOUR SECONDARY TO CANCER OF THE BREAST.

To the Editors of THE LANCET.

SIRS,—In the discussion at the Medical Society of London on Oct. 13th, on Mr. J. Bland-Sutton's case of ovarian tumour secondary to cancer of the breast, reported in THE LANCET of Oct. 18th, p. 1052, there appeared to be a considerable difference of opinion as to "the relative frequency with which cancer attacked both breasts concurrently or after an interval of months or years." As bearing on the point at issue I would mention that in the twenty-seventh volume of the Transactions of the Pathological Society of London Dr. Sidney Coupland gives an analysis of 89 cases of mammary cancer examined after death showing the relative frequency of the seats of secondary growths, compiled from the reports of the surgical registrars of the Middlesex Hospital, 1867 to 1875. Dr. Coupland shows that cancer was found in both breasts in 17 cases (a percentage of 19·1) and in the ovary in five cases. This analysis is appended to a report of a case of cancer of both breasts and ovaries under the care of the late Mr. Hulke. The case and the comments by Dr. Coupland are most interesting reading to students of cancer. There are several other details in Dr. Coupland's paper that make it a valuable contribution to the statistics of cancer.

I am, Sirs, yours faithfully,

Stratford-place, W., Oct. 22nd, 1902. T. W. NUNN.

THE NASAL TREATMENT OF ASTHMA.

To the Editors of THE LANCET.

SIRS,—The paper read at the Clinical Society of London on Oct. 10th by Dr. Alexander Francis of Brisbane on the above subject gave rise to so much discussion that many were unable to speak. Perhaps you will give space for a summary of my experience so far as it can be condensed into a letter. The fact that Dr. Francis stumbled upon his method—it was, he told us (in the first case), quite an accidental application of the cautery—would lead those unacquainted with the results of intra-nasal treatment of asthma and allied conditions to look with doubt upon his results, more especially as he was unable to specify any one area on the septum more likely to give relief than another. I gathered in conversation after the meeting that the sensitive area varied in each case and he found that many applications of the cautery might be required before the sensitive spot was found, while in others a single application had removed an asthma of several years' duration. That, as I understand, is Dr. Francis's position. Have others any ground for believing that the course of our inquiries lead up to the position accidentally secured by Dr. Francis? Let me briefly summarise my experience on the subject.

1. The most striking results are obtained in paroxysmal sneezing—patients, men and women, who suffer from profuse coryza and sneezing in the morning so that dressing is a difficulty. The attacks occur also in the night after the first sleep and in this regard closely resemble asthma. In several cases (when the attacks occur frequently in the day) patients have been threatened with loss of employment owing to the inconvenience and the exhaustion produced. In these cases a sensitive spongy area on the septum, which is the same for nearly all, will be found opposite the lower edge of the middle turbinal. The cauterisation of this acts rapidly, relief is magical, and one application on each side has removed a 10 years' trouble, with resulting improvements in general health. These, as Dr. Francis pointed out, are common cases. For my own part, I am in this, as in many other points, indebted to Dr. Greville MacDonald for my initial knowledge. Success in these cases is most marked when there is no exciting cause. When attacks are due to the odour of animals—e.g., horses, especially on a dry day,—to dust, or to particular flowers, success has not been so marked. In this group, however, all inquiries lead to the conclusion that the spot referred to above is not the sensitive area in all cases, for in a few no relief follows, while attention to other parts—for example, in one inveterate case the middle turbinal—affords relief.

2. No one can notice carefully the history of cases of asthma without observing that some abnormal nasal condition frequently exists or has existed. In young people especially nasal obstruction—from adenoids rarely, from hypertrophy of the inferior turbinal not unfrequently—is found; in others there is a history of paroxysmal sneezing. This latter symptom one might expect, for in its periodicity, in its variation from no assignable cause, and in the wheezy breathing it is so closely allied to asthma.

3. In children with "asthmatic attacks" beginning, it would not be difficult to collect evidence to show that after attention to adenoids, and especially hypertrophied inferior turbinals, the tendency has disappeared. Leading up to the intra-nasal treatment in this connexion it must be pointed out that odd results happen, as we know, in all spasmodic complaints. In a solitary instance removal of adenoids has effected—and unexpectedly—permanent relief, or the removal of a single polypus has removed a long-standing asthma. While these sporadic examples must, as in all inquiries, have their place and value as leading to further advance, the notable fact that removal of the grosser lesions, does not remove the spasm in asthma, only leads us to the conclusion, that in removal of these growths, when relief has been afforded, some specially sensitive area has been injured and destroyed. Instead of checking inquiry these isolated examples seem to point out to a further search in the direction indicated by Dr. Francis.

4. With regard to the association of polypi, it is well known that as a rule there is no true asthma. There are in a

good many, however, wheezing, breathless attacks, disturbed nights, and many of the symptoms of asthma. Some of these symptoms are due to mechanical obstruction and excessive secretion only, but others can only be explained as reflex phenomena. Again, in a few notable examples the removal of polypi has relieved asthma with a rapidity and completeness, not to be surpassed by the results obtained by Dr. Francis, or in those obtained in cases of paroxysmal sneezing. One recent instance was of fifteen years' standing, typical in every way as to nocturnal habit, thoracic spasm, &c. Removal of polypi from the right nostril, together with a polypoid middle turbinal, was immediately followed by the disappearance of all symptoms and restoration of sleep and health—this in a very active busy life which even asthma did not invalid. In a man aged 62 years (asthma having commenced at 45 years) the same conditions were found, but treatment has not yet been commenced. The above remarkable success may be explained as suggested in paragraph 3.

5. Once more, in examining cases of paroxysmal sneezing when the cautery has failed one has noticed a pale gelatinous middle turbinal. The mucous membrane is pale and abundant, so that it can be moved by a probe and is not shrunk away with cocaine. This condition has been recognised for years as the cause of recurrence of polypi and its removal to be necessary. Now in some cases of paroxysmal sneezing and in some cases of asthma this condition has been found. In one sneezing case polypi were found crowded in the middle meatus when the anterior end of the middle turbinal was removed. My observations are not sufficiently numerous in asthma to justify any conclusions on this point, but as this gelatinous condition has been found I believe a new step has been gained in recognising the necessity of removing this gelatinous middle turbinal where no polypi exist. Let it be noticed that there is no pus and that no granulations are visible.

In conclusion, it may be said that the remarkable relief afforded in cases of paroxysmal sneezing justifies the employment of the cautery in asthma; that relief in all cases is afforded by removing the gross lesions and in some the attacks disappear; that in children the removal of all nasal irritation, especially noting the condition of both middle and inferior turbinals, may be followed by great amelioration and even arrest the progress of asthma; that when a history of paroxysmal sneezing exists there is a good prospect of success; that the unexpected relief afforded in isolated cases by removal of polypi or a gelatinous middle turbinal or in the application of the cautery, indicates that the sensitive area from which a reflex may start is not the same for all; and that all observation lends support to Dr. Francis's empirical position, so that one cannot but consider it a duty to advise and to employ the cautery—lightly and painlessly—even where no morbid condition is seen.

I am, Sirs, yours faithfully,

Portland-place, W., Oct. 20th, 1902. CHARTERS J. SYMONDS.

THE METRIC SYSTEM IN PHARMACY.

To the Editors of THE LANCET.

SIRS,—In further support of the plea made by Sir William Gowers for the more general acceptance and use in practice of the metrical system for pharmacy, there should be no difficulty on the part of the pharmacists, and hitherto I have found none, as the only trouble entailed on them is that of obtaining, if not already possessing, a set of metric weights and measures, which is but a slight expense. It may be, however, that the process of transition from our present system to this one forms the principal deterrent to its adoption, but this only appears difficult to those who are unfamiliar with it. Whilst according all deference to the suggestion put forward by Sir William Gowers to facilitate the process by increasing, in a small and merely nominal degree almost, the value of our present unit, the grain, and whilst duly acknowledging the undoubted efficacy of such a change, I fear that it might fail through the introduction of the additional arithmetical factor involved, combined with the effect of a proposal which to some might seem too radical for it to receive the support necessary for its adoption, and thus such a measure, if its introduction were seriously attempted, might have the result of defeating its own ends.

From considerable knowledge of the use of the metric system amongst the members of our profession practising out of England, I should like to mention a method of transition which is followed with success and requires no fundamental change to effect it, nor does it present any apparent abstruseness to the average mind. It consists in arbitrarily regarding one grain as equivalent to 5 centigrammes, 15 grains as one gramme, one drachm as 4 grammes, and one ounce as 30 grammes. This usefully serves all practical purposes for ordinary occasions, and as the error introduced is distinctly on the side of safety it may therefore be justly ignored. Where exact accuracy is essential, as, for instance, in forming standard solutions, the more correct quantity of 0·065 of a gramme as representing one grain does not present any serious difficulty in calculation. Further, as the word gramme, or even its contraction, "gm.," is very seldom used in actual practice there is little likelihood of confusion arising from its possible resemblance, when hurriedly written, to "gr.," as representing the word grain. Perhaps it is almost needless to say that the more usual way of writing the quantities is to employ the figures only, marking their relative positions by the use of the cypher "0," and employing the comma to represent the decimal point. One gramme would therefore be written as 1,0 and 5 decigrammes, or ½ a gramme, as 0,50, and lastly, 5 centigrammes would be expressed as 0,05. As all the quantities, both dry and fluid, are generally weighed—the latter in the dispensing bottle placed on the pan of the balances—only the one system, that of gramme and subdivisions, is commonly employed.

It would be an advantageous step in the right direction and one of prime importance if at all teaching centres for medical training, and in the further editions of the various books on the Pharmacopœia, a point could be made of giving the formulas and doses in the nomenclature of *both* systems. If the mere fact of the greater simplicity and uniformity of the metric system were more fully known it would of itself accomplish a great deal in more speedily bringing about its own general adoption, and I feel that its acceptance may perhaps only require some well-directed but influential and organised effort to render it a completed fact.

I am, Sirs, yours faithfully,

Manchester-square, W., Oct 21st, 1902. KENNETH SCOTT.

To the Editors of THE LANCET.

SIRS,—I did not see the letter of Sir William Gowers in THE LANCET of Oct. 4th, headed "The Metric System in Pharmacy," until last week. I should like to say that the letter seems to me to deal in a practical way with a practical difficulty. I would point out in passing that I do not think there is any difficulty on the part of pharmacists in dispensing prescriptions written in the metric system. One of the great hindrances to its adoption has been the trouble of making calculations for the conversion of the one system into the other, perhaps repeatedly so in a busy dispensing day. The alternative suggested certainly would tend to remove this, as not only would the calculations be easily made but without much effort be remembered. I am not sure that the contraction "gm." would always be clearly distinct from "gr.," but the three additional helps to a solution should practically prevent any possibility of error. From the point of view of practical pharmacy, some such practicable plan, without entering into the question of whether one combination of figures was the exact equivalent of the other, is in my opinion the surest means of getting the system carried into practice, the result then being, as suggested in the letter, the "survival of the fittest." Might I point out that in the presentation of a badly or hurriedly written 0 in the metric system there is a danger of its being read for 6. I am, Sirs, yours faithfully,

Oxford-street, W., Oct. 15th, 1902. FRANK A. ROGERS.

ERRATUM.—The last paragraph of Dr. W. R. Huggard's letter on "The Metric System in Pharmacy," published in THE LANCET of Oct. 18th, p. 1078, ought to have appeared as follows: "In tabular form the points to be remembered are that practically," and the last three "ditto marks" in the table of equivalents should be omitted.

ISOLATION HOSPITALS.

To the Editors of THE LANCET.

SIRS,—Isolation hospitals seem to be in bad odour just now; but it will be a sorry day for this country when they are cried down. They could be, and should be, above

suspicion in their usefulness; but there can be no question that as at present constructed, organised, and administered they are occasionally the cause of the spread of the very diseases which they were constructed to prevent by means of the patients who are set free at the termination of the illness returning to their homes. Any way, these hospitals have come to stay, so we must ascertain their defects and endeavour to mend their ways. What these admirable and necessary institutions require to make them a source of good and to avoid all possibility of evil are three departments. Without these they must continue to be defective and be censured accordingly.

The essentials of an isolation hospital are—rooms in which doubtful cases can be isolated; wards in which infectious illness can be treated; and rooms to which the patients can be removed for convalescence.

1. *Isolation rooms.*—The chief use of isolation hospitals is that cases of an apparently infectious nature may be removed from homes unsuitable for their treatment at the very onset of the illness. To have to wait until the disease is assured may mean that the patient may have to remain in the home for several days and infect the whole household. Therefore, a plentiful supply of single rooms is essential where patients can be admitted in the first instance and where they can remain in quarantine until the disease can be definitely diagnosed. They can then be transferred to the special ward if infectious or be returned to their homes where mistakes in diagnosis have been made, which is only too easy in the early stage of infectious illness even to the most experienced, without risk to themselves or to their homes. Without this provision cases must, from time to time, find their way into infectious wards which have no business there.

2. *Fever wards.*—A series of large wards is required for the various diseases for which provision has been arranged, carefully isolated from each other, to which undoubted cases can be at once sent on admission, or transferred from the quarantine rooms as soon as the illness is assured and where they will be treated throughout its duration.

3. *Convalescent wards.*—Another series of small wards, or even single rooms, if necessary, in which the convalescent stage may be passed and from which the patients can, after spending the requisite number of days out of doors, with subsequent disinfection of themselves and all their belongings, be removed to their homes.

"Return" cases will continue to occur and isolation hospitals will be wrongly blamed so long as acute fresh cases of illness and convalescents are placed in the same ward and in adjacent beds. There is no known method of disinfection that will enable convalescents to mix safely with the public straight from a fever ward into which recent acute cases of infectious illness are continually admitted. This is the crux of the whole matter and should be provided for if isolation hospitals are to be an unalloyed benefit to the community.

I am, Sirs, yours faithfully,

Rugby, Oct. 18th, 1902. CLEMENT DUKES.

THE PHYSICAL AND MEDICAL EXAMINATION OF CANDIDATES FOR COMMISSIONS IN THE ARMY.

To the Editors of THE LANCET.

SIRS,—I am sure that the profession will be very grateful to "Officer, R.A.M.C.," for his clear and succinct exposition of the physical qualifications required of intending candidates for commissions in His Majesty's army. There is one point, however, which is not quite clear, and this is the meaning of D. = 6 at six metres. I find this cryptic sign repeated (with variations) eight times. Certainly it is not a symbol used by British or Irish ophthalmic surgeons and I fail to find any allusion to it in the text-books. As the matter is of great importance will "Officer, R.A.M.C.," please give us the key to this War Office private code, as we then will be able to advise our patients accordingly?

I am, Sirs, yours faithfully,

Oct. 20th, 1902. KENNETH CAMPBELL.

SYPHILIS AND LIFE ASSURANCE.

To the Editors of THE LANCET.

SIRS,—In his criticism in THE LANCET of Oct. 18th, p. 1079, of my note on Syphilis in Relation to Life Assurance,[1] Dr. G. Ogilvie states that my figures are an instance of syphilis statistics "as they should not be." I had the opportunity of obtaining certain figures and endeavoured to derive some information from them which might be of interest. This, I believe, I succeeded in doing, but certainly do not claim that the figures should be regarded as "syphilis statistics." Who, may I ask, would go to the records of an English life office to obtain real syphilis statistics? In only three out of the 500 cases was there any history of syphilis at the time of the assurance. I maintain that no information is to be obtained from English life assurance sources except by the aid of Professor Runeberg's method, which I regard as the best for the purpose. Dr. Ogilvie in his criticism seems to me to have endeavoured to set up a ninepin in order to knock it down; doubtless this is a capital kind of mental gymnastic exercise to a mind overflowing with energy, but I prefer not to be bowled over with the ninepin It is possible that owing to the system of universal insurance of the working-classes really valuable statistics on the subject will be obtained in Germany. These will not, however, apply to the material of the ordinary English insurance offices. Dr. Ogilvie refers to a discrepancy existing between "Professor Runeberg's gloomy view of the fatal influence of syphilis and the leniency of his practical proposals for the admission of syphilitics to life assurance." I am not sure that these practical proposals are at all lenient from the English assurance point of view. They certainly are not if my finding by the help of Professor Runeberg's method was at all near the truth—namely, that *in only 18 out of the 500 cases did syphilis have any share in causing death.* I abstained, however, from offering any practical suggestions whatever in my paper. Probably with most others I doubt whether it would be wise for a big English insurance office to refuse absolutely any life merely on account of there being ordinary primary or secondary syphilis, even at the time when assurance is desired. Every case, however, should be separately considered. Syphilis may sometimes perhaps save insurance companies from bad risks by bringing out signs of previously latent physical unsoundness. Recently a rather stout middle-aged man came up for insurance whose life, I think, had previously been accepted as a first-class one. He said he had had "blood poisoning" recently from a sore on his lip. Examination showed that he had a secondary syphilitic eruption and a primary chancre on the lip. The urine contained sugar and it is quite possible that in this case the general disturbance due to secondary syphilis helped to start the glycosuria and thus warn the assurance company of an unsoundness of constitution which was previously latent.

I am, Sirs, yours faithfully,

Harley-street, W., Oct. 18th, 1902. F. PARKES WEBER.

THE MEDICAL DEFENCE UNION.

To the Editors of THE LANCET.

SIRS,—Will you allow me to notify to your readers through your columns that the council of the Medical Defence Union has decided to impose an entrance fee of 10*s.* upon all candidates for membership of the Union elected on and after Jan. 1st, 1903. Those elected from this date to Dec. 31st next will not, however, be required to pay any entrance fee. The success of the Union has been so great that the council has considered it desirable to make this small additional charge to those joining on and after the date mentioned above. The subscription paid annually will remain as before—viz., 10*s.*

I am, Sirs, yours faithfully,

A GEORGE BATEMAN, General Secretary.

Trafalgar-square, W.C., Oct. 21st, 1902.

NASAL OBSTRUCTION AND DEFORMITIES OF THE UPPER JAW, TEETH, AND PALATE.

To the Editors of THE LANCET.

SIRS,—Mr. Mayo Collier's thoughtful and convincing contribution on the above subject in THE LANCET of Oct. 18th, p. 1038, appears to me to call for critical comment on one point. He apparently attributes the formation of the vaulted palate entirely to the negative

[1] THE LANCET, Sept. 27th, 1902, p. 867.

pressure in the nose resulting from the partial rarefaction of the contained air by the orally inspired current. Now this negative fluctuation of air tension undoubtedly tells in the direction he indicates; but manometric measurements show that the negative fluctuations of pressure in the nose during mouth breathing are very small as compared with those of normal nose breathing—i.e., there is more differential pressure between external and internal nasal air in nose breathing than in mouth breathing. This is especially so when there is nasal stenosis. Moreover, if negative pressure in the nose during mouth breathing were the chief cause of the vaulted palate, is it not reasonable to suppose that the unsupported lateral parts of the palate would be driven up rather than the median line supported by the septum? I am therefore still disposed to maintain the hypothesis advanced by me at the Odontological Society[1] that the connexion between mouth breathing as such and vaulted palate is that there is an abeyance of the stimulus of functional activity in the walls of the disused or imperfectly used nasal cavities and accessory sinuses, which leads to arrest of their development, so that they fail to expand properly in growing children and to push down the palate.

If *nose breathing through partially stenosed nostrils* be carried on, excessive fluctuations of negative pressure must lead to the walls of the nasal box being driven in by the external atmospheric pressure. No doubt in most cases of vaulted palate the two influences act in the same direction but alternately as one or the other mode of breathing is adopted.

I am, Sirs, yours faithfully,

Welbeck-street, W., Oct. 21st, 1902. SCANES SPICER.

THE DANGERS OF COMMON COLDS.

To the Editors of THE LANCET.

SIRS,—Dr. W. W. Ireland of Musselburgh may find relief from the use of a spray advocated in Professor Whitla's "Dictionary of Treatment" at p. 853:—Cocainæ hydrochl. gr. iv.; acidi carbolic. m. xxx.; glycerini ℥ij.; aquæ rosæ, ad. ℥xij. When going about and during bedtime compound menthol lozenges, slowly dissolved between the cheek and gums, are very beneficial.

I am, Sirs, yours faithfully,

Oct. 17th, 1902. STANLEY HAYNES, M.D. Edin.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Increasing Epidemic of Plague.—Improvement in the Famine Conditions.

THE epidemic of plague is increasing rapidly. A fortnight ago the deaths were 7439, while for the past week the number returned is 9971. In the corresponding week last year the deaths were 7279. The increase is general. Bombay city records 63 deaths as compared with 48 last week, Bombay Presidency 7384 as against 5957, Karachi 13 as against 15, Madras Presidency 322 as against 264, Calcutta 13 as against eight, Bengal 31 as against 16, United Provinces 745 as against 52, the Punjab 122 as against 80, Mysore State 1094 as against 1016, and Hyderabad 96 as against 75. A serious recrudescence has occurred in Bangalore and there are ominous signs of another outbreak in Bombay city. The old infected districts of the Bombay Presidency are again suffering severely. The rise in the United Provinces and in the Punjab is very threatening. There are also indications that Bengal and Calcutta will not long remain undisturbed.

Compared with the rise in plague mortality it is satisfactory to record that the rains have so favourably improved the famine districts as to lower the number of persons on relief works to less than 300,000.

Oct. 3rd.

[1] Vide Transactions of the Odontological Society, 1890.

UNIVERSITY COLLEGE, CARDIFF.—At the annual meeting of the governors held on Oct. 16th Lord Windsor and Dr. W. T. Edwards were re-elected vice-presidents of the College.

SANITATION AT LEICESTER.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(*Concluded from p. 1017.*)

Comparisons between Different Methods of Sewer Ventilation and the Prevalence of Typhoid Fever.—The Substitution of Ventilating Shafts for Open Street Grids.—Soil pipes as Sewer Ventilators.—The Separate System, the Flushing of Sewers, and the Disposal of Sewage.

LEICESTER was one of the first towns in England to carry out a systematic drainage scheme and it also led the way in respect to the compulsory notification of disease. Thus there is at once a record of endeavours made and of the results attained. These are admirably summarised by Mr. H. Alfred Roechling, C.E., in his treatise on "Sewer Gas and its Influence upon Health." A private Act of Parliament enabled the town to enforce compulsory notification in 1879. The building of sewers had been commenced in 1852, but in 1870 the main sewers were found to be too small owing to the rapid increase in the size of the town. It was not, however, till 1886 that a new general scheme was adopted and it took some nine years before these works were nearly completed. Then it is important to note that the earlier sewers were not provided with any means of ventilation and it was not till 1881 that the town council opened and cleansed the sewers and placed ventilating grids over the manholes. The inhabitants, however, found that very unpleasant odours arose out of these ventilators. So many complaints were made that in 1886 the majority of the ventilators were closed. Where permission could be obtained cast-iron ventilating pipes were run up the sides of the houses as ventilating shafts. By September, 1894, there were 255 pipes of this description, measuring six inches by four inches, employed to ventilate 125 miles of sewers and 52 factory chimneys were also utilised for the same purpose. Such briefly are the facts given by Mr. Roechling, from which he draws the following very interesting inferences. He points out that there were three periods. First, that preceding 1881, when the sewers were not ventilated at all; secondly, the period when they were ventilated at the street level; and thirdly, the period from 1886 to 1894, when about two-thirds of the street ventilators were closed and some 300 ventilating shafts erected in their stead. Now, taking the last six years of the first period, when there was no ventilation, the death-rate from typhoid fever was equal on an average to 32·2 per 100,000 inhabitants per annum. During the six years of the second period, when the sewers were cleansed and had ventilators in the street, the average annual death-rate from typhoid fever was only 16·3 per 100,000 inhabitants. On the other hand, during the third period, when the ventilation of the sewers was somewhat impeded by the closing of many of the openings on the street levels, the death-rate rose slightly, the average being 17·4 per 100,000 inhabitants per annum for the six years. The proportion would doubtless have been higher still but for the fact that these latter figures include a new district added to the town where typhoid fever was never very prevalent. During this latter period also the new main sewer came into operation and many other important sanitary improvements were effected. The difference in the number of cases notified between the second and the third period is more marked, for the average was 100 cases per annum per 100,000 inhabitants when the sewers were freely ventilated in the streets and 130 per 100,000 per annum when the efficiency of the ventilation was somewhat interfered with. When the sewers are not freely ventilated the sewer air is more likely to force its way into the houses, and Mr. Roechling points out that when the smoke test was applied to the drains of all the houses where cases of typhoid fever had occurred it was found that 31·25 per cent. of these houses had defective drains in 1893 and this percentage rose to 45·18 in 1894. But the advantage which coincides with the more efficient ventilation of the sewers is not limited to typhoid fever. It would seem to apply to the other principal zymotic diseases with the exception of small-pox. During the six years 1881 to 1886 the deaths from small-pox increased in the proportion of 27 per cent., but the deaths from typhoid fever decreased in the proportion of 49 per cent., measles 48

per cent., diphtheria 30 per cent., diarrhœa 23 per cent., scarlet fever 18 per cent., phthisis 17 per cent., and whooping-cough 15 per cent. During that period the deaths from all causes decreased 11 per cent. and from the seven principal zymotic diseases 26 per cent. This percentage is given in comparison with deaths recorded during the six years that preceded the introduction of ventilating grids to the sewers.

Such are the facts and arguments which Mr. Roechling brought forward some years ago to prove the necessity of thoroughly ventilating sewers and to demonstrate how this principle applied to the town of Leicester. Armed with these statistics, I was naturally anxious to ascertain what further improvements had been effected and how the question of sewer ventilation had been met. The cases of typhoid fever notified did not throw much light on the subject. Taking the last six years mentioned in the above calculations—namely, from 1889 to 1894—I find that during these six years 1215 cases of typhoid fever were reported to the authorities, and that during the ensuing six years the number amounted to 1262. This shows a further decline in the prevalence of typhoid fever, for during the first period the population had increased from 150,520 in 1889 to 187,250 in 1894, and during the second period from 190,600 in 1895 to 208,600 in 1900 Therefore, though the population had, it is estimated, increased to the extent of 21,350 inhabitants during the six years the increase in the total number of cases of typhoid fever notified during that period only amounted to 47. On the other hand, the general zymotic death-rate has not improved. It amounted to 3·41 per 1000 in 1898 and 1899, and to 3·60 per 1000 in 1900 This was due mainly to a severe epidemic of diphtheria. In 1901 the zymotic death-rate had fallen to 2·34. How severe this epidemic has been may be judged by the fact that whereas the average death-rate from diphtheria at Leicester during the 10 years 1890 to 1899 was 27 per 100,000, it amounted to 106 in 1899, to 151 in 1900, and to 73 in 1901. No suggestion, however, has been made connecting the prevalence of diphtheria with defective sewer ventilation; while, on the other hand, the experience acquired at Leicester does seem to indicate that the reduction in the proportionate number of cases of typhoid fever corresponds with improvements effected in the ventilation of sewers. Under all these circumstances it was only natural to expect that the sanitary authorities at Leicester would devote special attention to this question, and this has been the case.

The present borough surveyor, Mr. E. G. Mawbey, M.Inst.C.E., has made exhaustive tests consisting of several thousand observations contrived for the purpose of ascertaining the efficacy of the vertical shafts which were employed as substitutes for the open grids placed on the level of the streets. The result, Mr. Mawbey assured me, is that he found the shafts were effective at all seasons of the year. When all the grids of the neighbourhood had been closed enough air travelled along the shafts, even during the most trying summer weather, with sufficient velocity to change the air in the sewers several times during the 24 hours. This may be all that is needed, still it must be noted that the activity of the ventilation is modified by the temperature and that it is precisely in the summer, when most ventilation is needed, that the least is obtained. Then, again, enough air may pass out of the shafts to ventilate thoroughly the sewers if drawn from all parts of the sewers and domestic drains, but is this ventilation thus evenly diffused? It may be reasonable to hope that such is the case, but there is no absolute certainty in the matter. In any case the ventilating of the sewers by grids placed on the street level over manholes and lamp holes communicating directly with the sewer below has been completely abandoned. The principle now adopted is that the sewers should be ventilated by shafts only. But whatever may be the virtue of this principle there is no law to enforce its application. Householders, especially in the better quarters of the town, have a strong objection to allow ventilating shafts to be placed against the front wall of their houses. They are not considered very ornamental nor is the idea of sewer air constantly flowing over the roof of the house calculated to inspire a sense of perfect security. The householder not infrequently prefers that the ventilator should be affixed to some other house than his own. The result is that the number of these ventilating shafts actually put up is altogether insufficient, especially in the better quarters of the town. Consequently another expedient is being tried. This consists in abolishing the intercepting trap and converting the house soil-pipe into a sewer ventilator. There is nothing new in such a suggestion. It has often been advocated and is adopted in several towns. The idea is that every soil-pipe being a ventilator the sewer air would be so plentifully diluted that no nuisance could arise. The interior of the house is only protected by the trap under the pan of the closet from direct contact with the sewer air travelling freely up the house soil-pipe.

At Leicester, however, this principle is not applied throughout the town. On the contrary, intercepting traps are still used where the drains pass through a house. It is only when the soil-pipe is outside the house and less likely in the event of a leakage to contaminate the interior of the house that it is not separated from the sewer by an intercepting trap and therefore becomes a sewer ventilating pipe while acting as a soil-pipe. Of course, the great objection to this system is the difference of levels and the difficulty of carrying the pipes up to a sufficient height. The roof of one house may be below the upper floors of another and neighbouring dwelling. In the course of his numerous experiments Mr. Mawbey found that when the sewer ventilating shafts were carried above the roofs of the highest buildings and exposed to the unimpeded action of the wind there was generally an outward current. These higher shafts rarely served as inlets and when this did occur the downward flow of air was very sluggish. But this applies mainly to those ventilating shafts which have been put up purposely in front of the houses. When the soil-pipe serves as a sewer ventilator it is generally somewhere at the back of the house and on some lower building or outbuilding. The wind cannot blow over the top of these lower pipes so freely and therefore they more generally acted as inlets. As a result of all these experiments a rule has been established to the effect that the sewer-ventilating shafts should not be more than 100 yards apart from each other. In actual practice, however, while some of these ventilators may be seen within 50 yards of each other, there are at other places intervals of more than 100 yards where there is no ventilator at all. Indeed, the principles enunciated have only been realised fully in a small district where the house property was of so poor a character that but little objection was raised to the presence of the ventilating shafts. Most of the buildings in this district are one-storeyed workmen's cottages. The ventilating shaft is carried round the eaves and about one foot above the highest part of the roof. The argument is that, if well exposed to the wind, the height of the shaft does not matter. But though this district is flat and the great majority of the houses are of the same type, still, especially at the corners of streets, there is very often a public-house, a pawnshop, or perhaps a factory, and these buildings may be three or four storeys high. In many instances a ventilating shaft is run up the wall of these higher buildings. In that case it would act as an outlet while the shafts on the one-storeyed houses would be inlets; but as the latter are much more numerous than the former, would the many act as inlets and the few suffice as outlets? It will be seen that in all this there still remains a strong element of chance. It might very well occasionally happen that the process would be reversed and that a whole row of small cottages would be pumping from their ventilating shafts sewer air on the level of the second- and third-floor windows of the few higher houses in the neighbourhood. This, then, is not yet the ideal and even such as it is its application is not general throughout the town.

On the other hand, great care is being devoted to the work of rendering the sewers themselves as perfect as possible. They are built with such levels as will secure a minimum flow of two and a half feet per second, which is considered a self-cleansing velocity. But they are also systematically flushed, either by automatic flushing tanks or by periodically filling the manholes by means of street hydrants. In the small streets and for the small-pipe sewers these manholes can contain 500 gallons of water, which are discharged all at once into the sewer by lifting a penstock and constitute a powerful flush. This operation is performed about once a fortnight. It has been found that this flush carries full bore for a hundred yards—that is, the sewer is quite full of water for that distance. After the flush a carbolic acid solution is sprinkled into the manhole. But in spite of the care thus bestowed to render the working of the sewers efficient there remains this very disquieting fact: after the opening of the ventilators directly from the streets to the sewers below, which was effected as described in 1881, it was noticed that very offensive odours

escaped, not only from the surface grids that communicated with old and defective sewers, but also from those that ventilated the best constructed sewers, and it is maintained that these improved sewers are equal to the most perfect specimens in the country. The object of ventilating sewers is so to dilute the effluvia rising from the sewage as to prevent any nuisance whatsoever either in the sewer itself or elsewhere, and when this is not achieved the street ventilating grid reveals the fact to all who pass by. If the sewer air can only escape at high levels above the roofs of the houses it is not so easy to ascertain whether this purification by dilution has been achieved. Also there still remain 22 miles of very defective sewers in the town. These are in course of reconstruction and I had an opportunity of seeing some of this work done. A 15 inch brick sewer was being removed. The bricks had not been properly cemented. The sewage had passed out between them and the back as well as the invert side of the bricks was black with sewage deposits. The earth all round was also blackened with sewage and had to be dug out, placed in tip carts, mixed with disinfecting powder, and promptly removed.

There is yet another consideration that accentuates the importance of the problem of sewer ventilation as it presents itself at Leicester. The town, to a large extent, has adopted the separate system. In all small streets, and in some large streets, there are separate sewers for the rain-water from the roads and fronts of the houses. These rain water sewers are connected, whenever possible, with the main intercepting storm-water culverts which discharge directly into the river or canal. Where, however, such main storm overflow culverts do not exist the rain-water sewers have their outfall into the nearest main foul-water sewers. Consequently a considerable portion of the sewers of Leicester contain sewage proper only, diluted by the small portion of rain water that comes from the backyards. Therefore the effluvia such sewers engender might be of a more dangerous nature than if they arose from sewage mixed with all the rain water, and this renders the necessity of efficient ventilation even more imperative. In view of all these circumstances it is not surprising that the sanitary authorities should devote the utmost attention to this vexed, and as yet unsolved, problem. But they are determined not to leave a stone unturned to find the best solution and for this reason a small district has been set aside for the purpose of applying and thoroughly testing the Shone system of sewer ventilation. This system has already been described in our columns[1] and theoretically it appears to meet all the necessities of the case. Sanitarians throughout the world will be grateful to the Leicester authorities for having supplied an opportunity for testing whether what is promised in theory will work satisfactorily in practice.

There are many other subjects of interest to be studied at Leicester, notably the bacterial treatment of sewage effluents. Very extensive experiments have been made with the result that for Leicester the best method is thought to be a combination of septic and land treatment. It is proposed that the sewage should pass through detritus or settling tanks of a capacity of about one-sixth of the dry weather flow, then through first-contact bacteria beds, finishing off by passing the effluent on to old pasture or rye-grass land. It has been found that this mode of treatment, which the land at the disposal of the authorities favours, gives an effluent of equal purity to that of the best bacteriological processes. Altogether, therefore, it must be acknowledged that the authorities at Leicester have displayed commendable energy and perspicacity in dealing with sanitary problems. That they have met with their reward is shown by the vital statistics of the town published year by year.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

University of Birmingham.

THE session of the Faculty of Medicine was commenced on Oct. 1st by a meeting held in the buildings of the University. The Dean, Professor B. C. A. Windle, received the visitors in the medical hall. The proceedings included an address by Professor R. F. C. Leith entitled "The Possibility of Evolutionary Variation in the Characteristic Features of some Diseases: a Speculative Forecast in Bacteriology." A large audience, some of whom were perhaps attracted by the suggestive title of the address, listened with interest to the problems of the future as forecasted in relation to the practical application of medicine and surgery. The address was illustrated by lantern slides and by a number of preparations of bacteria shown by means of the projection lantern or the microscope. In the bacteriological laboratory physiological demonstrations were given by Professor E. W. W. Carlier. A collection of Greek vases, a series of specimens illustrating the implements and carvings of the prehistoric period, and other objects of interest were on view.

Licensing in Birmingham.

An interesting and instructive pamphlet has been issued by Mr. Arthur Chamberlain on "Licensing in the City of Birmingham." As chairman of the justices Mr. Chamberlain's opinions are entitled to great weight. Part I. is explanatory of the Birmingham surrender scheme; Part II. deals with the actual reduction in the number of licences in the city; and Part III. consists of statistics in reference to the sale of intoxicating liquors in eight large cities. In the introduction he says that Birmingham is now sixth in the list of places where drunkenness is most prevalent, and that its record cannot be said to be an improving one. Various reasons are advanced for this and suggestions are made for the amelioration of the evil. He states that in his belief "the most effectual, the most permanent, and, in the long run, the cheapest remedy, is to withdraw the slum courts from the secrecy in which they now fester, and to bring them to the light of day and under the public eye." The insanitary and unsavoury conditions of the slums in all large cities call for improvement and if this was carried out and the inhabitants were exposed to daylight and public opinion there is but little doubt that their health and morals would be also improved.

Dangers of the Brass Trade.

Brass casting, which is one of the leading trades of Birmingham, is generally recognised to be a very unhealthy occupation. Many plans have been proposed to protect the workmen. As a rule, the men themselves ignore or neglect the precautions suggested for their safety and welfare. An apparatus has been patented lately which promises to be more valuable than anything before tried for protective purposes. This apparatus is simple and consists of an iron hood placed over the casting-pot before it is withdrawn from the furnace; to this hood is attached a tube with a steel lining cased in asbestos. This tube, two and a half inches in diameter, communicates with another tube, six inches in diameter, leading into the chimney, the fumes being thus conveyed directly into the outside air. The adoption of this simple apparatus will, it is prophesied, do away with much risk in the process of casting.

Edinburgh University Graduates in the Midlands.

The sixth annual dinner of graduates of Edinburgh University residing in the Midlands was held at the Grand Hotel, Birmingham, on Oct. 11th, Dr. Thomas Nelson being in the chair. Professor T. Annandale was the guest of the club and in replying for the toast of "The University" made many happy remarks on the world-wide reputation of Edinburgh as a teaching centre which were heartily cheered.

Oct. 21st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Infirmary Question.

A SPECIAL general meeting of the trustees of the Manchester Royal Infirmary was held at the Memorial Hall on Oct. 16th. The Earl of Derby presided. Its purpose was to consider, and if approved to accept, the resignation of the board of management and to arrange for the filling up of vacancies, &c. Mr. Gerald Peel moved the necessary alterations of the rules, which the treasurer, Mr. J. H. Grafton, seconded, and they were carried unanimously. The meeting also had before it the following motion which was proposed by Judge Parry and seconded by Mr. Joseph Bell:—

That the trustees be asked to confirm the policy that there should be no rebuilding on the Piccadilly site, and that a new infirmary be built at Stanley-grove without delay, unless a better site offers.

[1] THE LANCET, August 9th, 1902, p. 405.

Judge Parry said that the infirmary question had been with them for a generation and they seemed as far as ever from an answer; and this was why they wished to put the motion before the trustees so that they might once and for all give an answer. He did not think that anyone would now speak in favour of rebuilding on the present site which they would have to realise to the best advantage. A large body of public opinion was in favour of an art gallery and a library being erected on it but as trustees they need not then consider that matter. He could not well avoid a hit at some of the medical staff who have advocated rebuilding in Piccadilly. It may be remembered that some time ago he was terribly injured and taken to a nursing home in Nelson-street, close to Stanley-grove. He said that he felt reassured when he found two eminent medical men living opposite and "would believe in the horrible atmosphere of Stanley-grove and the clear, unpolluted atmosphere in which they were at that moment when he saw the medical profession sitting on their doorsteps or underneath their fig-trees in the salubrious air of Oldham-road, but not before." Mr. Alfred Simpson, as a member of the old board, said that they considered the question of rebuilding on the Piccadilly site to be decided by the recent poll of the trustees. He thought, however, that the motion in its present form, stating that there should be no rebuilding on the present site, might cripple the trustees in offering it for sale and proposed an amendment which dealt with this point. After some further discussion and a consultation on the platform the following motion was drafted as a joint motion, proposed by Judge Parry, seconded by Mr. Simpson, and adopted with only a few dissentients:—

> That the trustees confirm the policy that there shall be no rebuilding of the infirmary on the Piccadilly site; that that building and site be disposed of on terms to be approved by the trustees and sanctioned by the Charity Commissioners; and that a new infirmary be built at Stanley-grove without delay unless a better site can be obtained.

This closes one act of the drama. The controversy as to the rebuilding of the infirmary has been before the trustees and the public of Manchester for the last 30 years or more and has been a familiar topic of conversation—sometimes animated. The question of a small hospital for the temporary reception of accidents still remains. Some would like a part of the present infirmary left for that purpose, but this would diminish the value of the site too seriously for all other purposes. It would ill accord with plans for the art gallery and library that many think should occupy part of the site and would interfere with any scheme for preserving the whole of it as an open space or for selling it for warehouses, offices, and shops, from which uses it is to be hoped it may be saved.

Municipal School of Technology.

Manchester was honoured last week by the presence of the Prime Minister. To the political occasion of his visit I need not refer, but though the School of Technology has no direct connexion with medicine its importance to the community is so great that I may be permitted perhaps to mention its formal opening by Mr. Balfour. It has cost nearly £300,000 and has been seven years in building. It is six storeys high and occupies an area of 6400 yards. The basement is a great workshop and laboratory for spinning and weaving, and mechanical and electrical engineering. On the ground floor are the entrance hall and administrative offices, class-rooms, and laboratories connected with the physics and textile departments. On the first floor are a large examination hall, library and reading-rooms, a room for the meetings of scientific societies, laboratories, class- and lecture-rooms for electrical, mechanical, and sanitary engineering, and the lecturers' common room. The second floor contains lecture-rooms and laboratories in connexion with architecture, photography, printing, and the electrical trades. There are also an experimental bakery, students' common room, and a restaurant. On the third floor are laboratories for organic and inorganic chemistry, the principal chemical lecture-theatre, laboratories for metallurgy and brewing, with workshops for wood-working and plumbing. On the fourth floor are dyeing laboratories and an experimental brewhouse and a well-equipped gymnasium. There are also an observatory, a house-painting and decorative department, and rooms for bookbinding and lithographic drawing. But in addition to all this a special department for the textile industry is now being built adjoining the main structure. It will contain a commodious dyeing, bleaching, printing, and finishing house for textile goods and for the manufacture, dyeing, and finishing of paper. The Lord Mayor, Alderman Hoy, is the chairman of the technical instruction committee and it is in a large measure through his energy and devotion that this great scheme for a technical school has been brought to a successful issue. The formal ceremony of opening the main doors was quickly gone through and Mr. Balfour was presented as a souvenir with a gold card case, a more useful gift, perhaps, than the conventional gold key. In his brief speech he dealt with two "capital facts" which have a bearing, not only on the students of the technical school, but on those who are now entering on their medical studies at the medical schools and colleges. In the first place, he said, "education is, and must be, an organic whole," and the student must be "not only anxious to learn but ready to learn." With slight modification of phrase this might well be said of medical education. In order to profit by the studies they enter on at the beginning of each session medical students, like those of technology, must be not only anxious to learn but ready to learn and fitted by the character and quality of their "preliminary education" to take advantage of their opportunities without losing time by having to make up leeway. It cannot be doubted that this technological school, with its combination of theoretical and practical work, will influence beneficially the cause of education in Manchester and the district round, not excepting that of the various departments of the Owens College.

The Small-pox Scare.

The gradual and insidious invasion of first one place, then another, by cases of small-pox is exciting apprehension and leading to talk about isolation hospitals, if it does no more. Manchester has not been quite free and when a letter was received from the Local Government Board, urging that the arrears of vaccination should be brought up and emphasising the desirability of revaccination, the clerk suggested the formation of a small sub-committee, as "one never knew what might happen between the fortnightly meetings of the guardians." Three more cases were removed from Oldham to the isolation hospital at Strinesdale. Up to that time 28 cases had occurred there. Rochdale has had no small-pox for a dozen years till a tramp caught the infection at Bolton, went to Manchester, and thence to Rochdale, where he slept in a lodging-house. He was removed to the corporation hospital at Marland, where he was followed by two other lodgers who had caught the complaint. A tramp went to the Chorley workhouse two or three weeks ago ill with small-pox and a serious outbreak occurred. Some districts, such as Heaton Norris, are in hopes of escape, as the medical officer reports that there is no place sufficiently isolated for a small-pox hospital. It is anticipated "that some outside authority would take a case if there were one." Probably a general and severe visitation of small-pox, though at the cost of much suffering and life, would be the most effective means of leading to the protection of the next two or three generations.

Oct. 21st.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Morpeth Dispensary and Cottage Hospital.

THERE is at present a movement for the amalgamation of the Morpeth Dispensary and the Cottage Hospital. The dispensary dates from 1817 and the cottage hospital, known as the Victoria, was established in 1897 as a jubilee memorial of the late Queen. A committee, composed of governors of both institutions, has considered the question of amalgamating them and its report has been circulated amongst the governors and subscribers. The committee says that an amalgamation is desirable because the two institutions working in the same district are auxiliary to one another and so efficiency would be promoted. The dispensary is bound by its rules to have a resident medical officer, and such an officer is most necessary at the cottage hospital in order that serious cases may be treated on the spot. After going into details of the estimated cost, with the estimated annual income and expenditure, the committee gives it as its opinion that "the most practical means of bringing about a final amalgamation would be for

the committee of the cottage hospital to begin a building fund forthwith." The report is signed by Dr. Marion J. Ross and Dr. J. P. Philip among others.

Coronation Ball at Newcastle-on-Tyne.

A ball of special interest to medical men, owing to the civic chair being occupied this year by a member of the medical profession, was given on Oct. 15th, when Mr. H. W. Newton entertained upwards of 350 guests at a fancy dress ball in honour of the coronation. The mayor appeared in the costume of Count Ferdinand Fathom; Sir G. H. Philipson was in court dress; Dr. Frederick Page donned a barrister's wig and black gown, as also did Dr. J. W. Leech and Mr. G. W. K. Hector; the medical officer of health (Dr. Henry E. Armstrong) represented a Chinese mandarin; Dr. R. P. R. Lyle came in Irish court dress; Mr. J. R. Baumgartner was dressed in a costume of the time of Queen Elizabeth; Dr. G. A. Atkinson wore the uniform of a naval surgeon; and Dr. Arthur Green was an imposing figure as a brigand chief.

Oct. 21st.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Treatment of Imbeciles.

IN December last,[1] on the suggestion of Sir Edward Fry, a special committee was appointed by the Somersetshire county council to consider the question of the accommodation for imbeciles in the county. This committee, in a report presented in April, after stating that there were in the county about 430 pauper imbeciles, of whom about 60 were under 21 years of age, expressed the opinion that with regard to pauper children who were either imbecile or idiotic much good would result from their being brought under an industrial training specially adapted to their cases and that adult pauper imbeciles or idiots should be maintained apart from the ordinary inmates of workhouses or lunatic asylums. This opinion was also that of several speakers at a conference of Poor-law authorities held at Taunton[2] and it seemed likely that some action would be taken by the county council in the matter. When, however, a definite proposal was made to the council on Oct. 14th to negotiate for the acquisition of a large unused school belonging to the Long Ashton board of guardians the proposal was rejected apparently on the ground that virtually it was suggested to establish a third asylum in the county. The proposed buildings would accommodate 80 children, for it was intended in the first place not to deal with adults, and they are very well adapted for the purpose to which they were to be put.

A Destructor for Swansea.

The Swansea corporation has decided to erect a Horsfall destructor at a cost of £10,500. The makers of the destructor have guaranteed that the cost of labour in the process of destruction shall not exceed 9*d.* per ton and they have also entered into a bond of £1000 that there shall be no nuisance or offence given off from the destructor.

Small-pox.

12 cases of small pox have been reported in Merthyr Tydvil during the fortnight ending Oct. 18th. The cost of vaccination in the Merthyr union, where there is a population of 140,000 persons and which includes the towns of Merthyr Tydvil and Aberdare, during the year ending March 31st, 1902, was £1488. The cost for the 12 months immediately preceding the coming into force of the last Vaccination Act was £372.

A County Medical Officer of Health for Somersetshire.

The question of appointing a medical officer of health for Somersetshire was once more mentioned at the quarterly meeting of the county council on Oct. 14th, but no action was taken in the matter. The sanitary committee of the council reported upon the pollution of certain streams within the county and recommended that in one instance proceedings should be taken against a rural district council under the Rivers Pollution Prevention Act, 1876. The committee also reported as to the unsatisfactory water-supply in another district. It is a little difficult to understand how the county council can properly enforce the sanitary provisions of the Local Government Act, 1888, and of other Acts of Parliament, without the assistance of a skilled adviser upon matters relating to public health, and it is evident that some members of the council are fully alive to the necessity of providing this assistance. The administrative county of Somersetshire is one in which a county medical officer of health could render the greatest service, for there are within its areas no very large towns. Taunton with its population of 22,000 is the largest, and of the remaining 20 urban districts 17 have each a population of less than 10,000 persons. The population of the administrative county at the last census was 385,000 and there were only 12 counties in England with a greater population. Of these 12 counties in all but three—Devonshire, Kent, and Middlesex—there is a county medical officer of health, while the councils of five counties with a smaller population than Somersetshire—viz., Northamptonshire, Shropshire, Wiltshire, Worcestershire, and the North Riding of Yorkshire—have also appointed a medical officer of health.

Oct. 21st.

[1] THE LANCET, Jan. 11th, 1902, p. 124.
[2] THE LANCET, March 8th, 1902, p. 703.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Physicians of Ireland: Election of Officers.

AT the annual stated meeting of the College, held on Oct. 18th (St. Luke's Day), the following officers were elected for the ensuing year:—President: Dr. A. V. Macan. Vice-President: Dr. H. T. Bewley. Censors: Dr. Bewley, Mr. T. Henry Wilson, Dr. J. B. Coleman, and Dr. G. J. Peacocke. Representative of the College on the General Medical Council: Dr. L. Atthill. Representatives on the Committee of Management: Dr. J. Magee Finny, Sir John W. Moore, and Dr. Craig. Treasurer: Dr. Atthill. Registrar: Dr. J. Craig. Librarian: Mr. R. Poels. The following candidates were elected Fellows of the College: Dr. Stewart Woodhouse, member of the General Prison Board, Ireland; and Dr. William John Thompson, physician to Jervis-street Hospital, Dublin. In the evening the annual banquet took place in the College hall. His Excellency the Lord Lieutenant honoured the President and Fellows with his company.

Armagh Asylum Board.

At the monthly meeting of the Armagh Asylum Board, held on Oct. 13th, it was reported by the medical superintendent that at present there were 508 patients in the asylum, the largest number yet received. The institution is very much overcrowded, as 434 is the legitimate number for which accommodation is provided. If the increase in the insane goes on as in former years the number in seven years will be 600. The medical superintendent said that the board would have to consider the question of establishing an auxiliary asylum or of making additions to the existing institution.

The Care of Idiotic and Imbecile Children in Ireland.

At the monthly meeting of the committee of the Belfast Asylum, held on Oct. 13th, Dr. W. Graham, the medical superintendent, drew the attention of the members to the provision made for the care and maintenance of idiotic and imbecile children in Ireland. The inspectors of lunatics, in their reports to the Lord Lieutenant of Ireland, have urged from time to time the necessity for an institution for the care and training of the idiotic and imbecile children who are scattered through the workhouses of the country or reside in the houses of the poor, but so far nothing has been done to meet this clamant want. Dr. Graham drew attention to the circumstance that since the last meeting of his board four cases of congenital imbecility had been admitted into the Belfast Asylum, cases which never could have required, in all probability, the costly treatment of an asylum had a proper training institute been in operation when first the inspectors called attention to the need. In Scotland and in England there are four institutions of the kind here called for—two in each country. An Englishman or a Scotchman can send his afflicted child to a home specially equipped for such cases. An Irishman, on the contrary, must send his imbecile offspring either to an asylum, where contact with the acute insane can have only a deleterious effect on both classes, or to a workhouse, the environment of which is not of a specially uplifting or educative character, and

where the sufferer, bereft of all suitable training and discipline, can only sink deeper and deeper into the slough of mental weakness and incapacity. To remedy this defect all that is needed is for the Government or the county councils to build and to equip properly a central institute for the care of the idiotic and imbecile. The committee of the Belfast Asylum passed a resolution of surprise that no steps had been taken to bring the matter before the Chief Secretary of Ireland, with a view to the carrying out of the suggestions made by the inspectors of lunatics so far back as 1893 as to the absolute necessity for a national institute for the training and maintenance of imbecile children in Ireland

Dr. Walter G. Smith, physician to Sir Patrick Dun's Hospital, has been re-elected King's Professor of Materia Medica and Pharmacy in the School of Physic in Ireland.

Oct. 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Hygienic Measures in Corsica.

M. LAVERAN, who has just been travelling in Corsica, laid before the Academy of Medicine at the meeting held on Oct. 7th an account of the measures which are being taken against malaria in Corsica. In all the unhealthy portions of the island he found quantities of mosquitoes mostly belonging to the variety anopheles maculipennis which is credited with spreading the hæmatozoon of malaria. Thanks to a society which has been formed in Bastia the prophylactic measures advised by the Academy of Medicine have been put into force. M. Laveran cited the case of an estate used for the purposes of a penitentiary which had been compelled to be given up on account of the ravages of malaria. At the present time, however, this estate is in full working order under the direction of the Department of Ponts et Chaussées. All the marshes have been drained and are being brought under cultivation, while individual prophylaxis has been carefully attended to. This is a typical case and shows what can be done against malaria. To make Corsica thoroughly healthy all stagnant pools and expanses of water ought to be done away with, or, at least, the anopheles larvæ therein should be destroyed by means of petroleum. Dwellings should be protected by metallic gauze screens over the doors and windows. Quinine should be largely given as a prophylactic and all patients suffering from malaria should be looked after so that mosquitoes may not attack them and so spread the infection. Quinine is being largely distributed gratuitously, the price of the sulphate having fallen from one franc per gramme to 15 centimes.

First Aid and the Police.

The formation of an ambulance corps would be a step of great utility and has already been agreed to as a desirable innovation by the Prefect of Police. Hitherto persons slightly injured in the streets are sent home after having had their wounds hastily dressed at a druggist's shop. The expenses of such treatment are defrayed by the Prefecture of Police. The annual amount reaches a somewhat large sum and, besides, the druggists' assistants who usually do the dressing are by no means experts at the work. One of the papers has proposed that police stations should be supplied with dressings and that policemen should undergo a course of instruction in first aid so that they could render assistance in cases of accident. If this proposal were carried out a considerable saving would be effected and it would be a great advantage to the public, so it is to be hoped that the idea will be favourably received.

Dissensions in the Syndicate of Medical Men of the Seine.

A marked schism exists at the present time among the members of the syndicate of medical men of the Seine. It arose out of a public meeting called by Dr. Diverneresse at which, in the presence of sundry working men, he delivered a lively attack on the medical officers of the insurance companies. The report of the meeting was published in the *Bulletin Officiel* of the Union of Syndicates. The proceedings at the meeting showed once more the difficulties arising every day in the application of the law concerning accidents to working men. By this law, injured working men have the right to choose their own medical men, but, as matter of fact, since the managers of all factories look to the insurance companies to lessen the expenses entailed upon the factory in case of accidents to workmen, the insurance companies consider that they have the right to make their own medical men attend the workmen. Dr. Diverneresse was simply the mouthpiece of most of his colleagues when he deplored this attitude of the companies, which deprives a great part of the medical profession of a portion of its legitimate gains, to the profit of a certain number of medical men who are in other respects very badly paid and who accept a certain sum from the insurance companies as a reward for serving them. There is no doubt that the insurance companies have the right to send their own medical man as a sort of consultant to investigate the real gravity of the accident under treatment. He goes to see that the interests of the company are not hurt by the attitude of the medical man treating the working man, who might be suspected of prolonging the period of treatment. It is even alleged that in some of the working men's quarters needy medical men conspire with their patients to exaggerate the gravity of the accident and the duration of the period of treatment on consideration of receiving a portion of the compensation paid by the insurance company. Also the insurance companies are getting more and more inclined to make the working man who is ignorant of the law—which is very generally the case—accept their own medical man as his medical attendant. During the Congress of Surgery which was held last year various medical men, on the initiative of Dr. Bousquet, demanded that medial men attached to hospitals should be paid for the treatment of an accident in the same way as a private medical man is paid, for the insurance companies are wont to send every accident case to a hospital without paying any other fee than the legal expenses which can be demanded by the hospital according to the tariff for the treatment of the indigent poor. Dr. Diverneresse, in the conference called by him, explained the law and pointed out that the working man had an absolute right to choose his own medical man, but the medical officers of the insurance companies declared that they were offended by certain expressions given vent to at the conference and that these expressions were against the rules of medical ethics. At the last sitting of the council of the Union of Syndicates M. Dorison, in the name of the medical officers of the insurance companies, asked that the council should pass a vote of censure on Dr. Diverneresse. Dr. Diverneresse defended himself with vigour and argued that in his own opinion medical men who consented to treat injured working men taken away from their own proper medical attendant by the threats and pressure exerted by the insurance companies, and who, besides, treated these working men for less than the legal tariff, so as not to lose their post with the insurance companies, acted contrary to medical ethics. M. Dorison said he was not there to pose as the defender of the insurance companies, but that he was sorry accusations had been made against his colleagues in the presence of the public. The following resolution was eventually passed by 5 votes in its favour against 1, four persons not voting:—

> The Administrative Council approves the principle of holding conferences with the working men initiated by Dr. Diverneresse and desires that the results should be made known to all the medical societies, but agrees that all the opinions which were expressed in the first conference and which are considered to be offensive to certain of our colleagues should be rescinded. The council also considers that such accusations ought not to have been made in such a general fashion against the medical men of the insurance companies.

The insurance companies' medical officers who are members of the council declare that this resolution does not give them satisfaction and they have therefore sent in their resignations as members of the syndicate. It is likely that their example will be followed by their colleagues and that all the 150 insurance medical officers who are members of the syndicate will withdraw.

Oct. 20th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Congress on Tuberculosis.

THE International Committee on Tuberculosis will meet this year from Oct. 23rd to 26th in Berlin in the buildings occupied by the Prussian Diet and courteously offered for

that purpose by the President of that body. The programme issued by the committee of organisation includes a reception on the evening of Oct. 22nd. The meeting will formally open on the morning of the 23rd, when an address of welcome will be delivered and a report on the work of the international organisation will be read by the general secretary. Addresses will then be delivered by Professor Fränkel and Professor Pannwitz of Berlin. On behalf of the individual national committees the following gentlemen will speak:—Professor Brouardel of Paris, Professor von Schrötter of Vienna, Dr. G. A. Heron of London, Professor Scherwinsky of Moscow, Dr. Linroth of Stockholm, Dr. Cozzolino of Naples, Dr. Dewez of Brussels, Dr. Schmid of Berne, Dr. von Lancastre of Lisbon, and Dr. Kaurin of Molde. Papers will then be read by Dr. Blumenthal of Moscow, Dr. Obertüschen of Wiesbaden, and Dr. Sersion of Paris, on methods of rendering the campaign against tuberculosis more popular. At the afternoon meeting the notification of tuberculosis, the question of dispensaries, the sanitation of workshops, and the disinfection of tuberculous discharges are to be discussed. On the 24th the sanatoriums of Berlin and its neighbourhood will be visited by the members. On the 25th the forenoon meeting will be devoted to the question of sanatoriums. At the afternoon meeting the difference between human and animal tuberculosis and other questions are to be discussed. At the final gathering on Sunday, the 26th, only matters of organisation are on the order of the day, together with elections to the offices of the international committee and some financial questions. The members will certainly have no reason to complain of a paucity of subjects for discussion, the programme being, if anything, rather ample for a two days' meeting.

Decisions of the Appeal Court of Honour.

The decisions of the appeal court of honour for Prussia have just been published by the government medical department. This court being the supreme authority in matters concerning medical etiquette its decisions are in some degree equivalent to the provisions formulated in a code of ethics. The appeal court consists of the director of the government medical department as chairman, four members of the medical chambers, and two medical men appointed by the Crown. Its proceedings are strictly secret; the system is so different from that followed by the British General Medical Council that not even the decision is announced in open court and the names of the inculpated individuals are not mentioned in the report which is now issued for the first time since the establishment of the court. Some of the decisions are somewhat peculiar and seem to prove that the members of the court are not thoroughly aware of the struggle for existence with which some of the members of the profession are so painfully familiar. For instance, a medical man has been found guilty because he had agitated for the introduction of the free-choice system in a sick club in which another medical man held an appointment with a fixed salary. The press rightly observes that, irrespectively of this particular medical man, the accredited representatives of a great combination of the medical profession agitate openly all the year round in favour of this system and that they are all of them liable to be punished in the same way as the unfortunate individual on whom the blow has now fallen. Obviously the free-choice system cannot be introduced into the working of a sick club without prejudicing the interests of the medical officers who already hold appointments in connexion with it—a fact which was found specially blamable by the court in the above case.

Professor Gerhardt's Successor.

Professor Friedrich Kraus of Graz in Austria has been appointed to succeed the late Professor Gerhardt as professor of clinical medicine at Berlin University and director of the second medical clinic at the Charité Hospital. Professor Kraus was born in 1858 at Bodenbach in Bohemia; he studied medicine at Prague and at Vienna, afterwards becoming an assistant to Professor Kahler in Prague and eventually in Vienna. In 1893 he was appointed extraordinary professor at Vienna University and in 1894 ordinary professor at Graz University. He has published a great many memoirs describing his researches in physiological and pathological chemistry in its relation to clinical medicine, and he has also contributed to Professor Nothnagel's "Encyclopædia" the volume on the Diseases of the Œsophagus and the Throat. The appointment of Professor Kraus has given rise to much comment owing to the fact that he has at a comparatively early age been intrusted with one of the most important chairs of clinical medicine in Germany. The newspapers, moreover, assert that for nearly 100 years no Austrian has been appointed an ordinary professor in the medical faculty of Berlin. The nomination of a German to a chair in Austria is, of course, more frequent; for instance, Professor Nothnagel, the late Professor Billroth, and the late Professor Brücke, all of Vienna, were called there from German universities. It is true that since Professor Nothnagel's appointment 20 years ago no other German has become an ordinary professor in Vienna and also that at the other universities of Austria the number of Germans holding ordinary professorships is relatively small; as far as I know, Professor Saenger, formerly at Leipsic and since last year at Prague, is the only German who has obtained a professorship in Austria during recent years, for Professor Escherich of Graz, Professor Hueppe, and Professor Gad, who are all Germans, have filled their chairs for a comparatively long time. As to the German universities other than that of Berlin there are only the celebrated surgeons Professor von Mikulicz of Breslau and Professor Czerny of Heidelberg who have come from Austria, whilst Professor von Eiselsberg, lately at Königsberg, has returned recently to Vienna, his native town, to succeed the late Professor Albert. By the appointment of Professor Kraus the unity of German and Austrian science so emphatically proclaimed at the meeting of the German Association of Naturalists and Medical Men[1] has proved to be more than a mere after-dinner sentiment. In some circles, however, there is a feeling of annoyance at the appointment of an Austrian to a Berlin professorship and those who would like to re-establish a system of protection against foreign competition ask whether Germany is in reality so ill-supplied with competent clinical teachers that it is necessary to bring one from abroad when a vacancy occurs.

A German-Russian Medical Journal.

It may be of interest to English readers who understand the German language without having any knowledge of Russian to know that two Russian medical men residing in Berlin are issuing a monthly journal, called the *Russische Medicinische Rundschau* (*Russian Medical Review*). The new periodical will confine itself exclusively to German translations of important articles published in the Russian medical journals, its object being to make the work of Russian medical men more accessible to foreign readers than heretofore. The first number contains an article by Dr. Diwawin, of the Moscow Surgical Clinic, on Operations for Graves's Disease and reports of Russian medical congresses and societies.

Oct. 20th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Decline of Cholera.

As anticipated, the cholera epidemic of this year is rapidly coming to an end. The daily bulletins from all Egypt are now slightly over 100 new cases and once last week fell to a figure below 100. This is a great improvement if it be remembered that early in September there were as many as 1600 cases reported daily. Cairo is still quite free from the disease and there is a decided improvement in the reports from all the country districts. Precautions, however, are not being in any way relaxed and in addition to a large staff of English and native medical men the students of the medical school of the two final years are nearly all still in the provinces acting as paid sanitary officials.

Cholera Lessons.

The Egyptians even of the better classes are indescribably dirty in their houses and their habits and have not yet learnt the rudiments of domestic sanitation, but it is sometimes disappointing to find Europeans who are taking the most tremendous pains to avoid the entry of cholera into their houses neglecting some obvious precautions. For instance, the kitchens of many good European houses are presided over by native male cooks and are extremely dirty, unwhitewashed, blackened by smoke, fouled by the greasy hands of the servants, swarming with cockroaches, and provided with shelves and cupboards which look as if they had never been washed or painted. This is partly due to the

[1] THE LANCET, Oct. 11th, 1902, p. 1019.

fact that the mistress of the house, perhaps unable to talk Arabic, is unwilling to cope with the unclean habits of the native servants and therefore seldom enters the kitchen. Moreover, most of the houses are unprovided with a larder, pantry, or scullery, the servants dress and wash in the kitchen, and, worst of all, leading out of many of the kitchens there is an ill-ventilated, untrapped water-closet. In spite of many warnings from typhoid fever the Europeans in Egypt have not yet learned to think of sanitary questions before they take a house or flat, and though there have been two sanitary engineers attached to the Egyptian Government for some years they are seldom invited by anyone except the better class English to give advice as to present or future habitations. It cannot be denied that cholera is extremely valuable in that it draws attention to neglected kitchens, filters, and food-supply. Another forgotten item is the ice box which is, of course, an absolute necessity in an Egyptian summer and a valuable luxury even in winter. Few people see that it is ever cleaned out, painted, or disinfected. While tracing the origin of one case in a European house in Alexandria the sanitary inspector found that the patient's meat had been bought in a butcher's shop where two assistants had recently contracted cholera. The shop looked quite clean and had been inspected and disinfected, but on closer examination the ice box proved to be swarming with cholera bacilli. Some consternation was felt among the English residents near the Bulkeley station of Ramleh, the popular suburb of Alexandria, by finding that cholera had picked out several victims from their neighbourhood, but it must be remembered that these same residents have in their water-supply and in their conservancy arrangements been neglecting sanitary measures for years. Also, some of them are supplied with milk by the cows of the Bedaween who are under no official inspection. It may be calculated that the present epidemic is more serious than that of 1895–96, but, on the other hand, it has not reached the dimensions of the 1883 outbreak.

Veterinary Report for 1901.

40 cases of anthrax were reported in Alexandria, 30 in animals coming from abroad, discovered in the quarantine pens, and 10 detected in the slaughter-house. These figures show how careful the inspection ought to be to avoid exposing meat for sale which is infected by anthrax. It is satisfactory to know that no cases were reported from sheep in the interior of Egypt. On the other hand, there were 180 cases of sheep-pox, coming chiefly from three villages in the Delta. 21 cases of rabid dogs and one cat were reported, though only three deaths from hydrophobia occurred among human beings, as compared with 10 during the previous year. Rabies is likely to continue or to increase until the Egyptian Government can be persuaded to take the matter in hand. The pariah dogs of the towns and villages are absolutely useless and should be radically destroyed. An attempt should be made to shoot down the wolves in the neighbourhood of some of the villages. The various European Consuls should also be invited to consent to quarantine regulations to prevent people bringing pet dogs into Egypt from countries where rabies is endemic and private dogs should be registered. 63 cases of glanders and farcy were found, mostly in old worn-out animals in Cairo and Alexandria, and 121 cases of cattle plague were reported as existing in the Soudan during the months of April, May, and June. It must be remembered that cattle plague exists in Abyssinia, Central Africa, and the Italian territory bordering the Soudan. For many years Egypt has been dependent on Europe for veterinary surgeons, but a year ago a veterinary school attached to the sanitary department was opened and 18 students were selected out of 69 applicants. Each student must possess the Government primary certificate and must have a good knowledge of English and the course of study is to extend over three years. The vaccine institute is one of the most successful branches of the veterinary department and during the past year 220,513 tubes of lymph were issued, yielding results of about 95 per cent. of successes after primary vaccination and about 78 per cent. after revaccinations. A trade is just beginning to spring up in Australian frozen meat, for which there seems a good demand as the prices of fresh meat are continually rising in the markets, and Egypt for her own consumption has to increase her imports of cattle, sheep, goats, and pigs.

Egyptian Ophthalmia.

Volney, who travelled in Egypt in 1784, said that for every 100 persons he met in the streets of Cairo 20 were blind, 10 were one-eyed, and 20 others had their eyes red, purulent, or spotted with leucoma. Savary confirms this by saying that at that time the University mosque of El Azhar in Cairo contained 8000 blind persons who were kept there. It is known, too, that a century ago this disease was called Egyptian ophthalmia, because both the French and English armies in Egypt suffered so much from it. Larrey tells us that the greater number of French soldiers suffered from it and MacGregor, writing in 1804, speaks of 2000 English soldiers who returned blind to England. But the country has improved so much since those days that it seemed almost ridiculous to see the British troops landing in 1882 with their veils and goggles, and, as a matter of fact, the English army of occupation has hardly suffered from granular ophthalmia, though there have often been a few cases of mild catarrhal ophthalmia among them. According to Dr. Eloui Bey, the most common causes of blindness to-day in Egypt among the natives are granular ophthalmia, glaucoma, purulent ophthalmia, and small-pox. In 1884 he was appointed medical officer of the Government schools; he then found 85 per cent. to be affected with granular lids, while now the number of students only yields 32 per cent. This great improvement can only be due to gradually increasing reforms in public and personal hygiene.

The Nile Flood of 1902.

It has happened on several occasions that cholera years in Egypt have coincided with seasons when the Nile flood has been extremely low or later than usual. No deficiency of the waters of the Nile can, of course, produce cholera, but as the chief method of getting rid of the disease is the granting of an improved water-supply to the inhabitants it is obvious that a late Nile, or a low one, can retard the stamping-out of the disease. The two lowest Niles of the last century were in 1877 and 1899, fortunately neither of them cholera years. This year (1902) is quite as bad as either of them and the flood, moreover, came down 20 days late, but by holding up the new barrage at Assiout and also the old dam below Cairo the Nile has been kept at a high level long enough to prevent there being any great loss. A few thousand acres cannot be cultivated for lack of water and therefore Government will lose the land tax on them for this year, but the deficiency will be much smaller than in either 1877 or 1899. The barrage (or dam) below Cairo is now much more useful for emergency purposes than it was three years ago, for not only have the foundations been strengthened but also two new cement weirs have been added below it. At the present time the Assiout dam is holding up half a metre of flood water and the barrage below Cairo is holding up one metre, thanks to the skilful resources of the irrigation engineers.

Cairo, Oct. 13th.

Obituary.

DANIEL McDONNELL, M.A., M.D. R.U.I.

THE medical profession in Belfast has sustained a heavy loss in the death of Dr. Daniel McDonnell, one of the most brilliant of the younger practitioners in the city. He had been suffering from pulmonary disease for about two years and passed away on Oct. 10th at his residence in Belfast. Dr. McDonnell was descended on his father's side from the old McDonnells of Antrim, ancient chieftains of Ireland. His father was Dr. McDonnell, J.P., of Randalstown, a man of great general culture and a very skilful physician. Young Daniel McDonnell received his school training at Castleknock College, co. Dublin, a famous Roman Catholic educational seminary. He subsequently studied at the Roman Catholic Medical School in Dublin and at the Mater Misericordiæ Hospital, where he gained the First Leonard Prize, and after a brilliant career in the Royal University of Ireland he graduated M.B. with high distinction in 1885, and in 1885 he obtained the M.A. degree of the same university. About 17 years ago he began to practise in Belfast, eventually receiving the appointments of medical officer to the Royal Irish Constabulary of the north district of the city of Belfast and of physician to the Mater Infirmorum Hospital, in both of which positions, by the conscientious and skilful discharge of his duties, he gave the utmost satisfaction. A member of the North of

Ireland Branch of the British Medical Association and of the Ulster Medical Society, his contributions at their respective meetings were always welcome. Dr. McDonnell was a member of the Belfast Literary Society, one of the oldest societies in Belfast, and here, again, his papers and criticisms, which were principally on philosophic and metaphysical subjects, were distinguished by the highest literary taste. One of his communications which attracted particular attention was a critical study of the "Antigone" of Sophocles. An omnivorous reader who remembered everything which he had perused, there was no more brilliant conversationalist or delightful companion than Dr. McDonnell, while he had at the same time that most charming gift—a keen appreciation of humour. He will be long remembered as a man of excellent literary culture, of extreme modesty, and of the utmost geniality. He was buried at his native place, Randalstown, co. Antrim, on Oct. 13th, a large concourse of friends attending to pay a last tribute to one whose ability was only exceeded by his kindly nature. The greatest sympathy is felt for his three sisters, who in the short period of two years have lost father, mother, and brother.

GEORGE ARTHUR BARR, L.R.C.P. LOND., M.R.C.S. ENG.

MR. G. A. BARR, whose death is announced as having taken place suddenly at his house in Newport, Isle of Wight, on Oct. 10th, was the youngest son of the late General William Barr of Shanklin and received his medical education at St. George's Hospital, where he had a successful career, holding many of the junior appointments. Mr. Barr was 48 years of age, but had only been in practice 16 years, having entered as a student some 10 years senior to most of the men of his year. He was at the time of his death, which was due to cardiac syncope, medical officer to the Isle of Wight Workhouse and police surgeon for Newport and district, while his private practice was an important one. In public and private capacity alike he had earned the deep regard of his friends, patients, and neighbours.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in October the following candidates passed in the subjects indicated:—

Surgery.—R. Appleton (Sections I. and II.), Leeds; F. M. Boclet (Section II.), Charing Cross Hospital; J. B. Bradley (Sections I. and II.), Birmingham; K. A. Dawson (Sections I. and II.), Royal Free Hospital; I. Griffith (Section II.) and P. S. Hopkins (Sections I. and II.), London Hospital; H. Johnson (Section II.), Guy's Hospital; J. A. Jones (Sections I. and II.), Manchester; C. E. H. Leggatt (Sections I. and II.), St. Mary's Hospital; and C. H. Osmond (Sections I. and II.), Glasgow.

Medicine.—J. J. Anning and R. Appleton (Sections I. and II.), Leeds; K. A. Dawson (Section II.), Royal Free Hospital; H. Johnson (Sections I. and II.), Guy's Hospital; J. A. Jones (Sections I. and II.), Manchester; J. P. Nettell (Sections I. and II.), London Hospital; and F. W. B. Young (Sections I. and II.), Liverpool and Leeds.

Forensic Medicine.—J. J. Anning, Leeds; H. Johnson, Guy's Hospital; J. A. Jones, Manchester; J. P. Nettell, London Hospital; and F. W. B. Young, Liverpool and Leeds.

Midwifery.—R. Appleton, Leeds; R. J. O. Harley, McGill; J. A. Jones, Manchester; W. Lovell, St. Mary's Hospital; C. C. Rushton, University College Hospital; J. H. K. Sykes, Leeds; F. J. Turner, Guy's Hospital; and S. H. R. Welch, Charing Cross Hospital.

The diploma of the society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: J. J. Anning, K. A. Dawson, P. S. Hopkins, J. A. Jones, H. Johnson, C. E. H. Leggatt, C. H. Osmond, and F. W. B. Young.

UNIVERSITY OF EDINBURGH.—At the special graduation ceremonial held on Oct. 18th the following degrees and certificate were conferred:—

Degree of Doctor of Medicine.—William Chisholm Macdonald, New Zealand, M.B., C.M. 1898 (*in absentia*).

Degrees of Bachelor of Medicine and Master in Surgery.—Sannyasi Charan Roy, India; and Robert Stenhouse Williams, England.

Degrees of Bachelor of Medicine and Bachelor of Surgery.—Lewis Anderson, Jamaica; Mahomed Ashruff, India; Agnes Balfour, Scotland; Archibald Brownlie, Scotland; George Gray Buchanan, Scotland; William Colliever Burton, England; Robert Edward Collins, India; Paul Daniel Francis Cremona, Grenada; Theodore Martin Cuthbert, Scotland; Andrew Richmond Douglas, Scotland; Francis Charles Drew, Ireland; * John Dunlop, Scotland; Arthur Percival Richard Fennell, Cape Colony; Andrew Grant, Scotland; John Peter Grant, B.Sc., Scotland; Howard Harding, England; Henry Herd, M.A., Scotland; James Mackersie Johnstone, Scotland; Abraham Leach, England; Alexander Bozett Leakey, England; James Charles London, Trinidad; Duncan Lorimer, Scotland; Alexander McEwan, Scotland; Daniel MacKinnon, Scotland; Robert Henry Martin, Ireland; John Black Mason, Scotland; Alfred Edward Morton, India; Edward John Morton, Scotland; Alan Cameron Owen, New Zealand; Herdman Porter, Ireland; Charles William Veitch Rutherford, Scotland; Edward Stevenson Sharpe, Ireland; Edward William Smyth, Australia; Robert Sproule, Australia; Elbert Lucas Steyn, Cape Colony; and William Young, Scotland.

Special University Certificate in Diseases of Tropical Climates.—Paul Daniel Francis Cremona, M.B., Ch.B.; Andrew Grant, M.B., Ch.B.; John Black Mason, M.B., Ch.B.; Sannyasi Charan Roy, M.B., C.M.; and Robert Sproule, M.B., Ch.B.

* Passed with Second-class Honours.

FOREIGN UNIVERSITY INTELLIGENCE.—*Kazan:* Dr. V. Vladimiroff has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Maryland (Baltimore):* Dr. Randolph Winslow has been appointed to the chair of Surgery.—*Naples:* Dr. A. Capaldi has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Prague (Bohemian University):* Dr. Emanuel Formanek has been recognised as *privat-docent* of Forensic Medicine and Toxicology. *(German University):* Dr. Lieblein has been recognised as *privat-docent* of Surgery.—*Rome:* Dr. M. Iatta of Pavia has been recognised as *privat-docent* of General Pathology.—*Tomsk:* Dr. S. Chugunoff has been recognised as *privat-docent* of Surgery.—*Turin:* Dr. E. Bertarelli has been recognised as *privat-docent* of Experimental Hygiene.—*Vienna:* Professor Anton, who was to have gone to Vienna to take charge of the Second University Clinic for Mental Diseases, will remain at Gratz; Dr. Isodor Neumann is retiring from his chair of Dermatology on account of age and will be succeeded by Dr. Franz Mracek.

GLASGOW SOUTHERN MEDICAL SOCIETY.—The annual dinner of the above society was held on Oct. 16th at St. Enoch's Station Hotel. Dr. D. Macgilvray, President, occupied the chair and was ably supported by Mr. T. Richmond and Dr. J. Fraser Orr who acted as croupiers. After the Royal toasts had been honoured Dr. Macgilvray, in proposing the toast of "The Society," gave a very interesting sketch of the history and progress of the society since its foundation in 1844, when the membership consisted of eight; now it was close on 300. Dr. John Stewart, in proposing the toast of "Our Honorary President," said that though the list of honorary presidents was not a long one, yet it was an illustrious roll, to which they hoped to add the names of men both far and near who were of outstanding merit in the profession of medicine. But no matter how long or how illustrious that roll should become it would be difficult to find in it the name of any man who was more esteemed and respected by his contemporaries or more deserving of honour at the hands of his fellow practitioners than that of Dr. J. Finlayson. Continuing, Dr. Stewart explained that the society had in view the establishment of annual addresses in medicine to be delivered by its honorary presidents and he expressed the opinion that they could not hope to have an honorary president more able to inaugurate these addresses than Dr. Finlayson. In drinking the toast Dr. Stewart asked those present to anticipate Dr. Finlayson's approval and consent to the scheme. Dr. Finlayson, in reply, said that the proposer of the toast had given him a severe shock. He did think that something would be expected of him, but he thought that a few remarks about Paracelsus or such like trifles would be sufficient. Now it seemed that an oration was expected from him and even his best admirers did not credit him with the ability to deliver one. In the course of a very interesting speech Dr. Finlayson referred to some of the founders of the society with whom he had been acquainted, particularly Dr. James Stewart, who was spoken of as the grandfather of the society. He also referred to the vast changes that had occurred on the south side of Glasgow since his early recollections of it and congratulated the society on its progress and success. Mr. Richmond, in proposing the toast of "The Imperial Forces," gave a spirited address on the merits of Tommy Atkins, both home and colonial, and pointed out to all whom it might concern in the future that a new and powerful source of strength and valour had sprung into being from our "Empire from over the seas." It would, he pointed out, give pause to those of our continental critics who had shown themselves to be enemies of the Empire. Surgeon-Lieutenant-Colonel A. Napier, 3rd Lanarkshire Rifle Volunteers in responding to the toast, said that he did not think the Volunteer part of our Imperial forces could be too highly praised for the

manner in which they responded to the call during the late campaign and that the War Office instead of placing obstacles in the way ought rather to encourage a force that had behaved so magnificently. Dr. Orr proposed "The University and Kindred Schools," to which Professor R. Stockman replied. Dr. Erskine gave the toast of "The Chair," to which Dr. Macgilvray replied. An enjoyable evening was brought to a conclusion by the company singing "Auld Lang Syne."

WESTMINSTER HOSPITAL MEDICAL SCHOOL.—In the list of scholarships which we published last week (p. 1093) the name of the holder of the Epsom Scholarship of 110 guineas should have been given as Mr. J. A. Braxton Hicks instead of Mr. J. R. Hicks. Mr. Braxton Hicks is the son of the lately deceased coroner of that name and grandson of the late Dr. Braxton Hicks, the well-known obstetrician.

"THE NEW RIVIERA."—Messrs. Elder, Dempster and Co. are again starting their winter and spring direct West India mail service, and the "New Riviera" is the company's name for Jamaica, "that land of bright sunshine in the Caribbean Sea." Special arrangements are being made for the comfort and convenience of visitors to the West Indies during the season. The new portion of the Constant Spring Hotel at Jamaica will be opened in December next.

HOSPITAL OFFICERS' ASSOCIATION.—The inaugural dinner of this newly formed association was held on Oct. 17th, at the Florence Hotel, when Mr. Lewis Glenton Kerr, secretary of the Great Northern Central Hospital, presided in the unavoidable absence of Mr. Adrian Hope, secretary of the Hospital for Sick Children, Great Ormond-street. The chairman briefly explained the objects of the association, which are, among others, to promote social intercourse between the various branches of the hospital services, to disseminate practical information and progressive ideas concerning hospital work, and to arouse a keener interest in the advancement and prosperity of the medical charities of this country.

NEWCASTLE-ON-TYNE LYING-IN HOSPITAL AND OUTDOOR CHARITY FOR POOR WOMEN.—On Oct. 9th the new ward of this hospital, erected by public subscription as a memorial to the late Dr. Thomas Cargill Nesham of Newcastle, for 33 years physician-accoucheur to the hospital, was opened by Mrs. W. A. Watson-Armstrong, daughter of the late Sir John Adye, G.C.B., and wife of Mr. W. A. Watson-Armstrong, J.P., D.L., M.A., of Rothbury, Bamburgh Castle, and Newcastle, well known in the district for their philanthropy. Among others present were the mayor, Alderman H. W. Newton; the sheriff, Mr. W. J. Sanderson; Professor Thomas Oliver, consulting physician to the hospital; and the medical staff of the hospital—viz., Mr. R. A. Nesham, Dr. W. Crump Beatley, Dr. G. Hume, Dr. R. P. Ranken Lyle (who was thanked by the committee for his energy in increasing the efficiency of the hospital), Dr. D. Drummond, Professor R. Howden, Dr. H. E. Armstrong, Dr. H. E. Davison, Dr. J. W. Leach, Dr. W. Martin, Dr. L. C. E. Calthrop, Dr. H. B. Angus, and Councillor John Goolden. Viscount Ridley (better known as Sir Matthew White Ridley), the President of the hospital, and Sir George Hare Philipson, M.D. Cantab., sent letters regretting their inability to be present. Mrs. Watson-Armstrong, in declaring the ward open, referred in kindly terms to the late Dr. Nesham, complimented the medical profession, and hoped that the position of nurses generally would continue to improve. A bronze memorial tablet has been placed in the ward. Mr. Watson-Armstrong said that the institution was a boon to the poor of the city and a means of education in midwifery to the medical students. The whole of the premises had been re-papered and painted. The institution still required £400 to defray the cost of the improvements (estimated at about £1500) and £100 more in annual subscriptions. The institution had 12 beds, 32 in-patients, and 165 home-patients. The new ward was built to provide eight extra beds. The Mayor hoped that the appeal for more funds would be successful and, referring to the large number of benevolent institutions in Newcastle, trusted that a wise discrimination would be observed in order that only the deserving should receive their benefits, as numbers of people who were quite able to pay ordinary medical fees applied for assistance. He moved a vote of thanks to Mr. and Mrs. Watson-Armstrong, which was seconded by the sheriff and heartily carried. Dr. Beatley, on behalf of Mr. Nesham, expressed his gratitude to the subscribers to the memorial to his father. The meeting closed with a vote of thanks to the committee, proposed by Dr. Hume, seconded by Mr. Gerald France, and carried unanimously.

THE Right Hon. James Lowther, M.P., will preside at the twenty-fourth annual meeting of the Church Burial, Funeral, and Mourning Reform Association, at the Church House, Westminster, on Monday, Oct. 27th, at 3 P.M.

THE ROYAL HUMANE SOCIETY'S MEDAL.—On Oct. 20th Mr. G. L. Findlay, M.B., B.S. Edin., was presented with the medal of the Royal Humane Society for having rescued the Hon. Lionel P. Tollemache from the estuary of the river Conway at Deganwy on August 26th. Mr. Tollemache had fainted in the water while bathing and died two days later as the result of his immersion.

DONATIONS AND BEQUESTS.—Dr. David McCosh of Cornton Vale, Bridge of Allan, N.B., has bequeathed £5000 to the Edinburgh Royal Infirmary.—The Rev. George Augustus Langdale of Compton-cum-Up Marden, Petersfield, by his will bequeathed £100 to the Chichester Infirmary.—By the will of Miss Rideout of Bath the Royal United Hospital of that city will receive £100.—Under the will of Miss Gingell of Southampton the South Hants Infirmary will receive £100, the Hants Nurses' Institute £50, and the Eye and Ear Hospital at Southampton £50.—The Sunderland Infirmary will receive £200 and the Sunderland Eye Infirmary £100 under the will of Mr. Thomas Steel of Sunderland.

THE CONTINENTAL ANGLO-AMERICAN MEDICAL SOCIETY.—The annual meeting of this society was held in Paris at the residence of the honorary secretary, Dr. Bull, on Oct. 14th, Dr. J. E. Brandt (Nice) being in the chair. The vacancies on the executive committee owing to the regretted deaths of Dr. Faure Miller, Dr. Good, and Dr. Hein, were filled by the election of Dr. G. C. Bright (Cannes), Dr. Danvers (Cairo), Dr. Baldwin (Rome), and Dr. Bull. Dr. Leonard N. Robinson was elected secretary in place of Dr. Bull.—In the evening the annual dinner of the society was held at the Hôtel du Palais d'Orsay, when nearly 30 members and guests assembled under the presidency of Dr. Edmund Symes-Thompson, consulting physician to the Brompton Consumption Hospital and President of the British Balneological and Climatological Society. After the dinner Dr. Alan Herbert, on behalf of the members of the Continental Anglo-American Medical Society, offered to Dr. Bull a beautiful bronze by Frémiet, representing St. Michael, as a souvenir of friendship and in grateful recognition of his valuable services as honorary secretary and treasurer, on the occasion of his retiring from office. Among those present were Dr. Wales, medical director of the United States Navy; Dr. Wendt, of New York; Dr. Norton; Dr. Linton Bogle (Bordighera), Dr. Johnston Lavis (Beaulieu), Dr Brandt and Dr. Vale (Nice), Dr. F. H. Burton-Brown (Rome), Dr. A. A. Warden, Dr. Gros, Dr. Koenig, Dr. Marucheau de Chanaud, Dr. Charles G. Jarvis, Dr Rivière, Dr. Landolt, Dr. Landolt, jun., and Dr. Robinson (Paris).

POISONING BY NITROUS FUMES.—On Sept. 19th a man, 32 years of age, employed by Messrs. Curtis and Harvey in the manufacture of nitro-glycerine, was admitted into St. Bartholomew's Hospital, Rochester, and died an hour later. He was too distressed to give any account of what had caused his illness. On admission he was cyanosed, with laboured and shallow breathing. His pulse-rate was 120, his respirations were 42, and his temperature was 98° F. He was put to bed surrounded with hot-water bottles, strychnine was given hypodermically, and oxygen was administered. On two occasions he coughed up a small amount of frothy blood-stained fluid. His heart continued to beat for a short while after respiration ceased. At the necropsy the pleural cavities were found to contain a good deal of fluid; the lungs were very congested and full of frothy fluid; the blood was very dark in colour and had not coagulated. Nitro-glycerine is made by treating glycerine with sulphuric and nitric acids. The waste acid left at the end of the process is said to contain 70 per cent. of H_2SO_4, 10 per cent of HNO_3, and 20 per cent. of water. When all the nitro-glycerine had been skimmed off the acid liquid was made to flow along an open drain through which water had been running The man neglected

to shut off the water beforehand and when the acid liquid came in contact with the water it boiled over. He, to conceal his omission, wiped up the mess and inhaled fumes of nitric oxide and nitric peroxide, into which the nitric acid is said to be broken up by the heat. This, it was stated, happened at 8 A.M. and the man continued at work until 12 noon, when illness compelled him to stop. We are indebted to Dr. Daniel Cowin for the history of the case.

VACCINATION EXPENDITURE.—At the meeting of the Bideford (Devon) board of guardians, held on Oct. 14th, it was reported that 383 primary vaccinations and 60 re-vaccinations had been performed in the district during the last 12 months. The total cost of vaccination for the year was £250.

PUBLIC HEALTH IN BRITISH GUIANA.—In his report on the work of the medical department of British Guiana for the 12 months from April 1st, 1900, to March 31st, 1901, Sir D. Palmer Ross, the surgeon-general of the colony, states that the health of the colony during that period was fairly good in so far that there was no widespread epidemic of a severe type and there were no cases of yellow fever or small-pox. The mortality was 17 per 1000. The principal diseases which prevailed were malarial fever, dysentery, diarrhœa, pneumonia, influenza, and catarrh. The public hospitals of the colony contain 3236 beds; 11,465 in-patients were admitted during the 12 months and there were 1219 deaths. In the public hospital at New Amsterdam 2148 in-patients were admitted during the 12 months; the expenditure was £20,241; the medical officer mentions in his report that the use of a lawn-mower has been discontinued on the ground of economy and the grass is therefore trimmed with a cutlass. Yaws is prevalent in some districts; 404 patients were treated at the yaws dispensary in Pomeroon. At the leper asylum there is also a separate building for the reception of cases of yaws; one leper has developed well-marked yaws, but no example of the converse case has been observed. It seems that the memorandum on malaria drawn up by Lord Lister and Sir Michael Foster for the Colonial Office in London has been received by a leading colonial newspaper with ridicule.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Resumption of the Session.

THE session of Parliament adjourned on August 8th was resumed on Oct. 16th, when the two Houses each held a sitting for the transaction of business. The main purpose of the meeting at this unusual period of the year is to pass the Education Bill and the London Water Bill. In asking facilities for Government business Mr. BALFOUR announced that he and his colleagues have determined that both these measures must be passed before Parliament prorogues and no doubt they will make strenuous exertions to accomplish this double object. The Education Bill is less than half-way through the committee stage, while the position of the London Water Bill is that it has been considered and amended by a joint committee of the two Houses and awaits consideration by committee of the whole House in the House of Commons. There are a number of other Government Bills still before Parliament, but they will only be passed this session if practically unopposed, among the number being the Food and Drugs Acts Amendment Bill dealing with the sale of butterine. At the meeting of the House of Commons on Oct. 16th the Bill which proposed to enable county councils to make contributions to hospitals was withdrawn, as were the Employment of Children Bill and the Dogs Regulation Bill.

Hours of Labour in Shops.

Sir CHARLES DILKE, on behalf of Mr. MCKENNA, has given notice of a motion on the subject of excessive hours of labour in shops.

HOUSE OF COMMONS.

MONDAY, OCT. 20TH.

Importation of Opium into Ceylon.

Mr. CAINE asked the Secretary of State for the Colonies whether he was aware that the importation of opium into Ceylon last year was 21,006 pounds, in 1895 12,827 pounds, in 1890 10,116 pounds, while in 1870 it was only 2499 pounds, thus increasing over eight-fold in 30 years; and whether he would order an inquiry into the causes of this increase with a view to its abatement.—Mr. CHAMBERLAIN replied: The figures quoted appear to be correct except for the year 1870, when the imports amounted to 12,499 pounds and not 2499 pounds. I will ask the Governor of Ceylon to make inquiry into the causes of any increase.

TUESDAY, OCT. 21st.

Phthisis among Rand Gold Miners.

Mr. CAINE asked the Secretary of State for the Colonies if his attention had been drawn to the prevalence of miner's phthisis in the Rand mines, due to the inhalation of fine dust given off from the machine drills; if he was aware that the medical officers of Redruth, Camborne, and other urban and district councils in Cornwall frequently reported the death of returned miners who had contracted this disease while working rock drills in South Africa; and if he would order an inquiry into the matter, with a view to the prevention or abatement of the cause of this disease.—Mr. CHAMBERLAIN replied: My attention has been drawn to the matter and I am in communication with the Governor on the subject.

Poor Law Officers' Superannuation.

Mr. A. K. LOYD asked the President of the Local Government Board whether he would consider the possibility of establishing a central fund for the receipt of all superannuation deductions and the payment of all superannuation allowances under the Poor Law Officers' Superannuation Act, so as to prevent the whole superannuation allowance falling upon the union last employing the officer.—Mr. LONG replied: There would be many difficulties in adopting such a scheme as that suggested and I cannot at present give any promise to propose legislation to give effect to it; but I will not fail to give careful consideration to the whole subject.

WEDNESDAY, OCT. 22ND.

Medical Provision in the Western Highlands.

Mr. WEIR asked the Lord Advocate whether the Secretary for Scotland was aware that a man named Graham recently died from typhus fever in the populous district of Ness, Island of Lewis, and that the body remained uncoffined for three days; would he state whether arrangements could be made for speedy interment in cases such as this; and, seeing that the only fever hospital was at Stornoway, 30 miles distant, would the Secretary for Scotland consider the expediency of arranging for this district to be provided with a place for the isolation of persons suffering from typhus fever and other infectious diseases.—The LORD ADVOCATE replied: The Local Government Board has ascertained that no person of the name of Graham has been notified as having died from typhus fever at Ness. It learns, however, that an old man named Mackay died in that district from typhus fever on the morning of Sunday, Sept. 14th, that intimation of his death was conveyed to Stornoway the same evening, that on Monday morning instructions were wired to have a coffin prepared, that on Tuesday an undertaker was sent from Stornoway, 25 miles distant, as the local undertaker would not coffin the body, and that about two o'clock on the same day the remains were coffined under the personal supervision of the chairman of the local authority—all within 56 hours after the man's death. The Board is satisfied that in the circumstances the arrangements for interment could not have been more expeditiously carried out, and it is assured that the local authority has made arrangements for interring as speedily as possible in such cases. The question of hospital accommodation for the Lewis district is a very difficult one and is engaging the attention of the local authority and the Local Government Board.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BRÉE, SIDNEY, M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Act for the Manningtree District of the county of Essex.

CAIE, WILLIAM J., M.A., M.B., Ch.B. Aberd., has been appointed Public Vaccinator for the Burgh of Bury St. Edmunds.

KIRTON, R. G., M.D. Lond., D.P.H., has been appointed Principal Medical Officer, Prisons Department, Cairo, Egypt.

LINDSEY, COLIN DUNROD, M.B. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Plymouth Public Dispensary

LITTLEWOOD, J. O., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Act for the Mansfield District of the county of Nottingham.

PANTING, LAURENCE C., M.A., M.D., B.Ch. Oxon, has been appointed Honorary Medical Officer to the Royal Cornwall Infirmary, Truro.

PHILIP, W. MARSHALL, M.B., C.M., D.P.H. Aberd., has been appointed Medical Officer of Health for Colombo, Ceylon.

RATCLIFF-GAYLARD, JAMES, M.D. Brux., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Certifying Factory Surgeon for the Truro District of the county of Cornwall; Medical Officer of the Truro Workhouse and St. Clement's District; and Public Vaccinator of the St. Clements and East Kenwyn Districts of the Truro Union.

RIGBY, W. C., M.B., Ch.B. Vict., has been appointed Certifying Surgeon under the Factory Act for the Adlington District of the county of Lancaster.

SOLTAU, ALFRED BERTRAM, M.B. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Plymouth Public Dispensary.

TRAYLEN, C. L., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to St. Mark's Hospital for Fistula.

WARD, JAMES PHILIP STEPHENS, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Plymouth Public Dispensary.

WHITTINGTON, R., B.A., M.B., B.Ch. Oxon., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant Medical Officer to Warneford Asylum, vice J. M. Ahern, M.B. R.U.I., appointed to H.M. Prison Service.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Birkenhead.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £100 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

DOWN DISTRICT LUNATIC ASYLUM, Downpatrick.—Junior Male Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, board, washing, fuel, light, and attendance.

FARRINGDON DISPENSARY AND GENERAL LYING-IN CHARITY, 17, Bartlett's-buildings, Holborn-circus, E.C.—Honorary Dental Surgeon.

HANTS ROYAL COUNTY HOSPITAL, Winchester.—House Physician, unmarried. Salary £65 per annum, rising to £75, with board, residence, &c.

JENNER INSTITUTE OF PREVENTIVE MEDICINE, Serum Department, Aldenham, Herts.—Assistant Bacteriologist. Salary £200 per annum, with rooms.

LIVERPOOL (CITY OF) INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

LIVERPOOL (NEAR), COUNTY ASYLUM, Rainhill.—Assistant Medical Officer. Salary £150 per annum, rising to £250, with apartments, board, attendance, and washing.

LONDON SKIN HOSPITAL, 40, Fitzroy-square, W.—Clinical Assistant and Pathologist.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, Hampstead and Northwood, Middlesex.—Physician.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with board and residence.

NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Honorarium £20, with board, lodging, and washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

PARISH OF FULHAM INFIRMARY, St. Dunstan's-road, Hammersmith, W.—Assistant Medical Superintendent, unmarried. Salary £120 per annum, increasing to £150, with board, apartments, attendance, and washing.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

ROYAL EAR HOSPITAL, Frith-street, Soho-square, W.—Assistant Anæsthetist (honorary). Also House Surgeon, non-resident, for six months. Honorarium £50 per annum.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, London, W.C.—Honorary Assistant Medical Officer.

SHEFFIELD UNIVERSITY COLLEGE (FACULTY OF MEDICINE).—Professor of Physiology. Also Demonstrator in Bacteriology.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £30 per annum, with board, washing, and residence.

SUSSEX COUNTY HOSPITAL.—Third House Surgeon, unmarried. Salary £60 per annum, with board and residence.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Physician. Salary £100 per annum, with board and lodging.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeon under the Factory and Workshop Act at Wadebridge, in the county of Cornwall, and at Inverurie, in the county of Aberdeen.

Births, Marriages, and Deaths.

BIRTHS.

BROUGHTON.—On Oct. 18th, to Alfred G. S. Broughton, M.B., Ch.B., and wife, a son, Batley.

FOULDS.—On Oct. 20th, at Ashlea, Droitwich, Worcester, the wife of Francis H. Foulds, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

SUTCLIFF.—On Oct. 14th, at Park Villa, Torrington, Devon, the wife of E. Harvey Sutcliff, M.B. Durh., of a son.

MARRIAGES.

LAMBERT—CHATTOCK.—On Oct. 14th, at St. George's Church, Hanover-square, Percy Lambert, M.R.C.S., L.R.C.P. Lond., to Beatrice Fanny, youngest daughter of Mr. Richard S. Chattock.

TURNER—PRITCHARD.—On Oct. 14th, at St. Peter's Church, Belsize-park, N.W., Bernard Roworth Turner, M.B., B.C. Cantab., of Oundle, Northamptonshire, to Emily Beatrice, second daughter of Urban Pritchard, M.D. Edin., F.R.C.S. Eng.

DEATH.

ALEXANDER.—On Oct. 13th, at Dundonald, Ayrshire, William Alexander, M.D., J.P., aged 87 (retired).

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A MEDICAL MAN'S CHARGES JUSTIFIED.

ON Tuesday, Oct. 14th, at the Southwark County-court, before his Honour Judge Addison, K.C., Mr. Albert Edward Pryse, of Rose-terrace, Deptford Park, and Lower-road, Rotherhithe, sued Mr. J. C. Rickus, of 134, Rotherhithe New-road, to recover £13 for professional services rendered and medicines, &c., supplied between Nov. 17th and Jan. 19th last. Mr. V. Lyons, barrister, appeared for the plaintiff and stated that h's client paid 94 visits for each of which he charged 2*s.* 6*d.*—His Honour: Is that the usual charge to people in the defendant's walk of life?—The Plaintiff: Yes, sir.—The defendant declared that the charge was most exorbitant and excessive, especially in view of the fact that medicine was charged for extra. Any medical man who charged such fees in that district would not get more than three patients. But the fact was he "discharged" the defendant and as a result he piled up his bill. He subsequently employed another medical man who drove up in his brougham and charged only 5*s.* per week. Allowing the plaintiff three times that amount his bill would only come to £7 2*s.* 6*d.* Every bottle of medicine had to be sent for and the plaintiff made a lot of visits, jumping off his bicycle when it suited him and often walking in and out whilst the patient (a boy) was asleep. For that he charged half a crown.—His Honour: What was the matter with the boy?—The Plaintiff: He had a wound which had to be dressed.—The Defendant: It is my firm opinion that he knows what caused the wound. My son had an abscess on his arm and he went for a bottle of medicine and that man vaccinated him. He told me he had rheumatic fever for five days and I had a specialist down for which he said there was no need, and he said the boy was dying.—Mr. Lyons: But as a matter of fact your boy is alive still.—The Defendant: This has taken from me the savings of 10 years and the poor lad will be a cripple for life—if I can save him.—Mr. Lyons said that the plaintiff advised a consultation and the defendant paid a surgeon a fee of 20 guineas for one operation, which sum was more than his client was asking for three months' services.—The Plaintiff: The wound wanted a lot of dressing and the defendant told me distinctly to spare no expense.—His Honour: Did you pay any unnecessary visits?—The Plaintiff: No, sir, but I paid more visits than I am charging for. The boy's medicine, lotion, and dressings are included in the charge of 2*s.* 6*d.* per visit; the medicine charged for was supplied to other members of defendant's family.—His Honour (to the defendant): It is a great pity you did not make some agreement with the doctor when he first visited the case as to how often he should visit and what he should charge. I cannot tax these charges unless you can put your finger on something that is quite unnecessary or extortionate. You ought to have made a bargain.—Mr. Lyons: The plaintiff sent in his bill for nine months and got no reply.—The Defendant: I was too disgusted with it.—His Honour: I cannot alter the bill unless there is something manifestly wrong or excessive.—The Defendant: His bill works out at 30*s.* a week, whilst another doctor, who drives up in his brougham, charges only 5*s.*—His Honour: Some doctors do a great deal of work for a very little and some do a lot for nothing. Doctors' bills are always unpleasant.—Judgment was given for the plaintiff for £13 and costs to be paid at the rate of £1 per month.

A QUESTION OF FEES.

A CORRESPONDENT writes:—I had to attend at the High Court for three days last July, costs being allowed on the higher scale. I sent in my account for three guineas a day. The solicitor writes to say that one guinea a day is all I can claim from his client, but if it was at the assizes I could then claim three guineas a day. What I want you to say is, am I right in thinking I can recover the three guineas a day. I am a general practitioner with a large practice and attended the court at great inconvenience.

*** One guinea per diem is the amount allowed on the taxation of costs to professional men appearing as witnesses in the High Court if resident in the town in which the cause is tried. The fee for such witnesses may be taxed at from two to three guineas per diem (inclusive of all except travelling expenses) if the witness resides at a distance from the place of trial, which, perhaps, explains our correspondent's allusion to assizes. These fees are not affected by the order that the fees shall be taxed on what is known as the higher scale.—ED. L.

TRADE LIES.

IN THE LANCET of Oct. 18th, p. 1096, we pointed out that a little honesty might be of service to our commercial supremacy which it is alleged is declining. On Oct. 10th a plumber, by name Coaker, was summoned at the North London Police-court by the Islington borough council for having improperly set a soil pipe. Evidence was brought to show that where the jointing was visible Coaker had run in molten lead, but that at the back of the jointing he had used rags and paper. His defence was that he had been unable to supervise the workman. Coaker was fined £2 and £1 a day for 14 days,

making £16 in all, or a month's imprisonment. We have no hesitation in stigmatising both Coaker and his workman as potential murderers. The jerry-builder is even more than the purveyor of putrid food a pest to society and should be as remorselessly treated as a mad dog. We are glad to see that the Islington borough council had the grit to prosecute, for municipal bodies do not always show such honesty. In support of this remark we may refer to the scandalous behaviour of the Reigate town council. In Reigate lives a person who produces an abominable nuisance by brick-burning. Various residents have complained, the medical officer of health has endorsed the complaint, and the town clerk has advised the council that it ought to take proceedings. But the party complained of is a member of the council, so the council does nothing. Our contemporary *Truth*, in its issue of Oct. 9th, suggests that the residents should apply for a mandamus, and we cordially agree. What is the use of Public Health Acts if municipal authorities are left recalcitrant?

A PRACTICAL SUGGESTION FOR THE TREATMENT OF ASTHMA.

To the Editors of THE LANCET.

SIRS,—Allow me to add to what has been lately written about relief of asthma that I have derived immense benefit from inhalation of the South African papers prepared by Mr. Walden, 65, Elizabeth-street, Eaton-square, London, S.W. I have been a sufferer from asthma most of my life and have tried very many remedies. For several years past inhalation of menthol has been my sheet anchor, which, being a vascular stimulant and nervine sedative, has the advantage of good after-effects instead of the reverse—which is the case with most other remedies. I use Messrs. Burroughs, Wellcome, and Co.'s pocket inhaler and also the one for the nose and mouth, but a small glass bottle half filled with menthol and warmed in the hand is sufficient in slight cases. It must, of course, be well inhaled up one nostril and exhaled down the other, the chest being well filled and emptied each time. Hoping these few lines may be the means of benefiting other sufferers,

I am, Sirs, your faithfully,

Worcester, Oct. 20th, 1902. W. WOODWARD, M.D. St. And.

THE WAYS OF A "SOCIETY PALMIST."

A "SOCIETY PALMIST," as she terms herself, who attends "homes, receptions, bazaars, and garden parties ..... Clairvoyants' crystals with full instructions for self-use, from 7*s.* 6*d.* each, post free" (see her business cards which for obvious reasons we do not reproduce), has the impudence necessary to maintain herself by chicanery. She has written to a well-known London physician stating that "we note by the hand signs of illness, particularly of the nerves," and offering to enter into a bargain under which her institution should recommend the physician while he should distribute "a few of my cards to your friends." A person with such an intuitive grasp of the business that might be done by an alliance between a leader of the medical profession and a Bond-street charlatan to swindle the public is probably making money. Is it not time that the law stepped in? Some people may think that the palmist's wits entitle her to her plunder, but that is not our view. Society, as a palmist knows it, may be credulous, but still we hold that it has the right to expect protection from robbery. Where are the police?

THE TREATMENT OF CHRONIC CONSTIPATION.

To the Editors of THE LANCET.

SIRS,—My object in writing to you is not to expound any new method for the treatment of chronic constipation but to draw attention to simple and well-organised procedures which I am inclined to think are not sufficiently acted upon by many of us. The method of treatment to which I refer may be summarised as follows: 1. Two or three bending exercises suitable to the individual carried out night and morning, especially a circumduction of the body following the course of the large intestine. 2. A glass of water, tepid or cold according to circumstances, taken at a draught in the morning before breakfast. 3. A suitable breakfast. 4. An effort made to relieve nature immediately after breakfast, whether there be any desire or not. 5. Until the constipation is overcome a dose, as small as will be efficacious, of some saline aperient on any morning that the effort has proved ineffectual.

This simple plan will be found to act satisfactorily in nearly every case of chronic constipation not, of course, caused by any organic trouble, and has proved effectual in cases of 15, 20, and just recently in a case of over 30, years' duration. A few cases will require in addition massage of the intestines, especially of the large intestine.

I am, Sirs, yours faithfully,

Wimpole-street, W., Oct. 20th, 1902. GEORGE STEELE-PERKINS.

CARMINATIVES IN SLEEPLESSNESS.

To the Editors of THE LANCET.

SIRS,—I was much interested to read your comments on the use of gingerbread as a soporific under the title "The Clergy and Medicine." It would appear from your remarks that the use of stimulant carminatives in inducing sleep is not as widely known as it deserves to be. I have had over 18 months' experience as house surgeon, house physician, and resident obstetric officer at one of our largest London hospitals. During that time I have had many opportunities of testing the relative value of various soporific and hypnotic drugs. I have on several occasions prescribed aqua menthæ piperitæ for sleeplessness with complete success. I first ordered it as a placebo for a neurotic patient, but I was soon induced to regard its action from a more physiological standpoint. As you suggest, the action is probably to cause a flow of blood to the stomach and so to deplete the brain. Be that as it may, its beneficial action is often remarkable. A mixture of carminatives such as spirit of peppermint and spirit of chloroform in a little hot water will frequently induce sound and natural sleep in cases where one would hesitate to prescribe drugs more potent (both for good and evil), such as bromides, chloral, trional, &c. One meets with many cases of insomnia where no organic cause can be discovered and where the use of a safe and simple mixture such as I have mentioned is all that is required. The usefulness of this small practical point, learnt from experience, must be my excuse for so long a letter.

I am, Sirs, yours faithfully,

Oct. 21st, 1902. M.A., M.B., B.C. Cantab.

A DISCLAIMER.

To the Editors of THE LANCET.

SIRS,—I have just received through a press-cutting agency a portion of a paper, entitled *The Optician and Photographic Trades Review*, containing an article of mine on the Essentials of a Test for Colour-blindness which was published in the *British Medical Journal* of last year. I need hardly say that the article was copied without my consent or knowledge, though to the reader it would appear as if it had been specially written for the paper.

I am, Sirs, yours faithfully,

F. EDRIDGE-GREEN.

Welbeck-street, Cavendish-square, W., Oct. 11th, 1902.

OYSTERS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers kindly say where oysters can be obtained with a probable security against typhoid fever and whether keeping them for 24 hours in oatmeal and water renders them safe?

Yours truly,

QUÆSTIO.

EARLY MENSTRUATION.

DR. GEORGE WELLS of Annapolis, Maryland, mentions in the October number of the *Maryland Medical Journal* that he has under his care a little girl, now seven years of age, who has menstruated regularly (nearly every 28 days) since she was 18 months old. When her mother first consulted him he made a careful and thorough examination and has kept her under close observation from that time to the present. The sanguineous discharge has occurred monthly throughout this period for six years and the child, although not robust, shows indisputable evidence of having reached puberty. The mons Veneris and the labia majora are thinly covered with long hairs, the mammæ are as well developed as in the majority of adult women, the areola is well defined, and the facial expression is thoughtful and matured. Dr. Wells therefore concludes that the case is one of precocious menstruation.

Tajmag.—1. A registered medical practitioner, being qualified to practise medicine and surgery in all branches, is, of course, able to practise dentistry. 2. He must not style himself "Chemist and Druggist" because he is not such unless he is a member of the Pharmaceutical Society; but, of course, he can make up his own prescriptions at his surgery or dispensary and take money for them. 3. A registered medical practitioner can only employ an unqualified assistant in the manner permitted by the General Medical Council. It does not make any difference whether the assistant is "an unqualified chemist"—we do not quite know what our correspondent signifies by this term—or a medical student. The assistant must not prescribe for patients on his own initiative or attend patients save under the supervision of his principal; otherwise the principal will be removed from the roll of the profession for covering. Nor may he be left in charge of medical halls or open shops to sell scheduled poisons, or preparations containing the same, unless he is legally qualified to do so. Our correspondent should read the proceedings at the General Medical Council in November of last year when seven practitioners attended to answer the allegation of the Pharmaceutical Society that they had caused persons in their employ to commit breaches of the Pharmacy Act. The notice for the information of general practitioners arising out of these cases will be found in THE LANCET, Dec. 7th, 1901, p. 1632.

J. H. J.—The case, as detailed by our correspondent, was certainly one where medical evidence ought to have been given at the inquest.

During the week marked copies of the following newspapers have been received:—*Derbyshire Courier, Manchester Weekly Chronicle, Derbyshire Times, Cowdenbeath and Kelty Echo, Cowdenbeath and Lochgelly Times and Advertiser, Yorkshire Mercury, Reading Mercury, Herts Advertiser, Times of India, Aberdeen Weekly Free Press, Lancashire Post, Western Mercury, Pioneer Mail, Devon and Exeter Express, Burnley Express, Scotsman, Ipswich Times, Dublin Evening Telegraph, Lancaster Guardian, Bradford Observer, Sheffield Daily Telegraph, Municipal Reformer, Echo, Daily Express, Bristol Mercury, Windsor and Eton Express, Westminster Gazette, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 23rd 1902.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Oct. 17	29·68	NNW	...	86	56	43	43	46	Fine
,, 18	29 52	S.E.	0·23	58	52	46	50	51	Raining
,, 19	29 99	S.W.	...	71	55	39	37	40	Foggy
,, 20	29·73	S.W.	0·10	73	56	40	51	52	Raining
,, 21	29·98	W.	0·04	88	59	44	45	46	Fine
,, 22	29 98	W.	0·04	83	56	45	49	50	Raining
,, 23	30 43	S.W.	0·01	60	53	44	45	47	Foggy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (29th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (30th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (1st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (27th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Council Meeting. Paper:—Dr. R. E. Leigh Canney: On the Prevention of Typhoid Fever in Armies.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Casual Communications:—Dr. J. W. Pare: (1) Slides showing Pre-milk and Post-permanent Developing Tooth Germs in Embryonic Kitten; (2) Human Maxilla showing in the Floor of Nasal Cavity an Opening of Inflammatory Origin communicating with the Palatine Root Canal of a Molar; (3) Model of the Mandible showing the Root of a Tooth between the First and Second Molars, the Three Molars being Present. Short Paper:—Dr. Beddard and Dr. Spriggs: Some Methods of Preparing Teeth for Histological Examination.

TUESDAY (28th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Dr. G. R. Murray: The Clinical History and Symptoms of 120 Cases of Exophthalmic Goitre.

WEDNESDAY (29th).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. General Meeting. 9 P.M. Ordinary Meeting. Dr. E. Symes Thompson: Far Away Climates. (Presidential Address.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. M. H. MacLeod: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Treatment of Heart Disease.

TUESDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Bidwell: Surgical Treatment of Dilated Stomach.

WESTMINSTER HOSPITAL (Broad Sanctuary, S.W.).—4.30 P.M. Mr. A. Evans: Surgical Cases. (Post-Graduate Clinical Demonstration.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. A. Turner: Locomotor Ataxy.

WEDNESDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Berry: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. McAdam Eccles: Surgical Anatomy.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—3 P.M. Dr. Fowler: The Diagnosis and Treatment of Tuberculous Pleurisy.

THURSDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Treatment of Some Injuries and Emergencies.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Poynton: Endocarditis.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Green: Medical Cases. (Post-Graduate Course.)

FRIDAY (31st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. P. R. W. de Santi: Clinique. (Ear.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Abraham: Skin Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Batten: Infantile Paralysis.

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